

paper
No. 1

dis-
chase

ysis
Ma

th.
Ch

Med
New England J. of Medicine

COLUMBIA HOSPITAL
HOUSE STAFF LIBRARY
UNDER NO CIRCUMSTANCES TO
BE TAKEN FROM THE HOSPITAL

THE BOSTON Medical and Surgical JOURNAL

OFFICIAL ORGAN of THE MASSACHUSETTS MEDICAL SOCIETY and of THE NEW ENGLAND SURGICAL SOCIETY

\$5 per Annum. 15c per copy
Vol. CLXXXIII. No. 15

THURSDAY, OCTOBER 7, 1920

Published weekly in Boston,
at 126 Massachusetts Avenue

CONTENTS

ORIGINAL ARTICLES

ORCHITIS IN MUMPS.

By Conrad Wesselhoft, M.D., Boston.

WHY RELIEF OF JOINT TROUBLES IS EASY OR DIFFICULT.

By Herman W. Marshall, M.D., Boston.

THE INFLUENCE OF THE MEDICAL PROFESSION ON MEDICAL LEGISLATION AND THE PUBLIC WELFARE.

By John B. Hawes, 2nd, M.D., Boston.

TRANSFUSION IN OBSTETRICS.

By R. S. Titus, M.D., Boston.

EDITORIALS

THE TRAINING OF RELIEF NURSES.

INFANT AND CHILD WELFARE WORK IN BOSTON.

A PROFESSIONAL PROTEST.

For complete table of contents, see first text page.

Boston's Clinical Work

The Medical Clinics of North America

From the Massachusetts General Hospital

Contribution by Ida M. Cannon, Chief of Social Service Department.

A Medical-social Clinic.

Contribution by Drs. Paul D. White and William D. Reid, Cardiac Clinic.

The Diagnosis of Mitral Stenosis.

Clinic of Dr. Stanley Cobb.

Spastic Paralysis in Children.

Clinic of Dr. Maynard Ladd, Children's Department, Boston Dispensary.

Vomiting as a Symptom in Children.

From the Boston City Hospital

Clinic of Dr. Edward H. Nichols.

Early Diagnosis of Acute Appendicitis.

Clinic of Dr. William H. Robey, Jr.

Aneurysm of the Descending Aorta.

Clinic of Dr. Edwin A. Locke, Pneumonia Service.

Empyema Complicating Pneumonia.

Clinic of Dr. Franklin W. White.

Modern Examination of the Stomach.

Clinic of Dr. W. Richard Oster.

Renal Function Tests—Their Clinical Application.

Clinic of Dr. M. J. English, Clinic of Dr. William H. Robey, Jr.

An Atypical Case of Pneumonia.

Clinic of Dr. Albert A. Hornor

Encephalitis.

Clinic of Dr. H. Archibald Nissen.

Cirrhosis of the Liver Showing Jaundice and Ascites.

Contribution of Dr. Frank B. Berry.

Pathological Laboratory.

Lobar Pneumonia (Analysis of 400 Autopsies).

From the Children's Hospital

Clinic of Dr. John Lovett Morse.

Constipation and Eczema in an Infant from an Excess of Fat in Modified Milk.

Clinic of Dr. Lewis Webb Hill.

1. Congenital Atelectasis.

2. Bronchial Tetany.

Clinic of Dr. Edwin T. Wyman.

Acquired Heart Disease in Childhood.

Clinic of Dr. Karlton G. Percy.

Chronic Intestinal Indigestion from Starch Showing Indican Reaction.

Clinic of Dr. Joseph I. Grover.

Enuresis.

Clinic of Dr. Philip H. Sylvester.

A Case for Diagnosis.

Issued serially, one octavo of 300 pages, illustrated, every other month. Sold only by the Clinic Year (July to May). Cloth, \$16.00 net; paper, \$12.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London

Entered at the Post-office at Boston as second-class matter.



ANALAX

An Ideal Laxative for Children

IDEAL because they look like gum drops and taste like candy. They have a gentle yet effective action—non-gripping—and are far better than oil. Also fine to prescribe for elderly persons of delicate health.

Analax contains juices of sun-ripened fruit and Agar-Agar combined with phenol-phthalein.

Test quantities gladly sent to physicians upon request. Box of 100 pastilles to hospitals.

McKESSON & ROBBINS, Inc.

Manufacturing Chemists

Established 1833

91 Fulton Street, New York

PRIMARILY

ELIXIR LACTOPEPTINE acts as a prompt *and* efficient digestive aid throughout the alimentary tract.

But as a **vehicle** it occupies a place *of* equal distinction.

For when the stomach rebels *and* will no longer tolerate **KI** or other harsh drug

ELIXIR LACTOPEPTINE overcomes the difficulty *and* makes possible a continuation *of* treatment.

ELIXIR LACTOPEPTINE renders disagreeable *and* irritant drugs

PLEASING to the eye—**ACCEPTABLE** to the palate

GRATEFUL to the stomach.

Lactopeptine

THE ORIGINAL MULTIPLE ENZYME PRODUCT

THE NEW YORK PHARMACAL ASSOCIATION

YONKERS, N. Y.

Gastron

**A new gastric-gland extract
(alcohol free)**

Affords a means of fortifying and promoting gastric function under clinical conditions. It is qualified for this service by the fact that it is a complete gastric-gland extract, actually representative of the gastric gland tissue juice in all its properties and activities—activating, digestive, antiseptic.

Gastron has found wide acceptance under the "considerate thought" of the physician, to whom it is submitted—success follows its use.

**Fairchild Bros. & Foster
New York**

Ready for Use!



A CAREFULLY prepared and alkalinized solution of Arsphenamine "606" furnished in a form available for instant use, in the office or at the bedside.

**SOLUTION
ARSPHENAMINE-LOWY
S.A.L.**

The physician breaks off the ends of the ampoule, attaches the rubber tubing, inserts the needle, and injects. No mixing, no waiting, no bother.

Fully approved by the A. M. A. Council of Pharmacy and Chemistry, and prepared under license by the U. S. Public Health Service.

Interesting literature sent on request

LOWY LABORATORY, Inc., 361 Plane St., Newark, N. J.



Massachusetts General Hospital CONSULTATION CLINIC

Days: Tuesdays and Fridays (Holidays excepted).
Admitting Hour: 2.00 to 2.30 P.M.

Patients will not be admitted without a letter from their physician referring them to the Consultation Clinic.

Admission Fee: \$10.00.

X-Ray and Laboratory Tests extra

Departments represented:

Medicine	Surgery
Genito-Urinary	Orthopedics
Syphilis	Skin
Pediatrics	Neurology
Nose and Throat	Eye and Ear

After the examination is completed a written report will be sent to the doctor with the diagnosis and suggestions for future treatment.

This Clinic is for the benefit of families with small incomes and to assist physicians in cases of doubtful diagnosis. Diagnosis has become so complex and expensive in obscure and difficult cases that its cost has become a heavy burden to those who, nevertheless, are able to pay something.

DR. RICHARD C. CAROT
DR. DAVID L. EDSALL
DR. CHARLES A. PORTER
DR. FRANKLIN G. RALCH
DR. EDWARD W. TAYLOR,
DR. FREDERIC A. WASHBURN, Secy.

General Executive Committee.

Current Literature Department

ABSTRACTORS.

GERARDO M. BALZONI, M.D. GEORGE G. SMITH, M.D.
LAURENCE D. CHAPIN, M.D. WILLIAM D. SMITH, M.D.
JOHN B. HAWES, 2d, M.D. LESLEY H. SPOONER, M.D.
EDWARD H. RISLEY, M.D. WILDER TILESTON, M.D.

MEDICINE.

FURTHER STUDIES OF THE TYPES OF STREPTOCOCCI
FOUND IN THE SPUTUM OF BRONCHIAL ASTHMATICS.

ADKINSON, I. and WALKER, J. C. (*The Jour. of Med. Research*, May, 1920) draw the following conclusions from their work.

Comparison of the types of streptococci isolated from the sputum of bronchial asthmatics during two seasons, which were nearly identical for several months, and then, later on, were markedly different in the severity and variation of the weather, shows that the types of streptococcus present are constant and not influenced by conditions of temperature and weather. The types of streptococci present are numerous. Practically all of the hemolytic streptococci were of the four types, namely subacidus, anginosus, pyogenes and infrequens, with rarely hemolyticus 1 and equi. Practically all of the non-hemolytic streptococci were of three types, namely, ignavus, salivarius, and mitis with rarely fecalis or non-hemolyticus 1. The types of organism present in the sputum of asthmatics are subject to constant and frequent variation, and the organisms present in the nasal secretion may be the same or entirely different from those occurring in the sputum.

Therefore the present work confirms the results of the previous study, and it is still more evident that autogenous vaccine rather than stock vaccine, should be employed in the treatment of bronchial asthma, and that autogenous vaccine should be made frequently rather than to use the same vaccine continuously. Furthermore, in doing skin tests on bronchial asthmatics, it is advisable to use the protein of the types of streptococci which are frequently found in the sputum as noted above, rather than one single strain or a combination of all known types of strains. [E. H. R.]

THE USE OF ARSPHENAMIN IN NON-SYPHILITIC DISEASE.

REASONER, M. A., and NICHOLS, H. J. (*Jour. of the I. M. A.*, Sept. 4, 1920) draw the following conclusions from their investigations:

For practical therapeutic purposes, the beneficial effects of arspfenamin and neo-arsphenamin are most apparent in a limited number of spirochetal diseases.

They act as a specific in Vincent's angina, relapsing fever, yaws, gangosa and pulmonary spirochetosis (if given early) in man, and in equine influenza.

A therapeutic effect is noted in rat-bite disease, in certain dental conditions and in fowl spirochetosis. The complete measure of the effect in the latter condition has not yet been established.

No apparent benefit has been found in such other spirochetal diseases as Weil's disease and yellow fever.

Good results have been obtained in syphilites, in

(Continued on page vi.)



King Solomon

who was noted for the pithy nature of his remarks, once said, "The lips of the wise disperse knowledge."

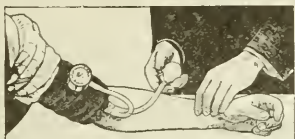
Solomon's subjects were affected with the same ills as those that hamper the people of the twentieth century—among them constipation.

Had Pluto Water been known in Solomon's time, it is not hard to believe he would say, "The lips and pen of the wise physician prescribe Pluto."

PLUTO

FRENCH LICK SPRINGS HOTEL CO.
French Lick, Indiana

SANBORN Blood Pressure Outfit



Thorough accuracy, extreme durability, quick and dependable determination of systolic, diastolic and pulse pressures—these are guaranteed the user of the Sanborn Outfit.

Approved by the U. S. Army and Navy, insurance companies and thousands of physicians throughout the country.

Aneroid gage; washable armband, 42 inches long; Ceylon rubber bag, 5 x 9½ inches, reinforced by durable fabric; specially made release valve; essential parts double strength; packed in case of selected leather.

PRICE — \$17.50

May we not send you an outfit for trial in your practice? No advance payment required. Just send your request on your business stationery.

Made, guaranteed and sold direct to physicians by

Sanborn Company Makers of Scientific Instruments

79 Sudbury St., BOSTON 14, MASS.

PROTECT YOUR PATIENTS

AGAINST . . .

**Colds
Influenza
Pneumonia**

USE SHERMAN'S NO. 38

WRITE FOR LITERATURE

MANUFACTURER
OF
BACTERIAL VACCINES
G. H. SHERMAN, M.D.
*Detroit, Mich.
U.S.A.*

Seasonal and Specific Pollens

Diagnostic and Treatment Solutions of the various Pollens used in the treatment of Hay-fever.

Timothy	Ragweed
Red Top	Corn
Daisy	Goldenrod
Dandelion	Rose
Orchard Grass	June Grass
Sunflower	and Various Others

Above Carried in Stock at All Times

Also: Food Proteins
Epidermal Proteins
Bacterial Proteins

E. F. MAHADY COMPANY

671 Boylston St. (Near Copley Sq.)
Boston, Mass.

Probilin BILIARY AND HEPATIC Pills

Fifteen years of extensive universal use of Probilin Pills have demonstrated that by early diagnosis and logical medical treatment a great many gall stone cases can be prevented from reaching the stage of indispensable surgical intervention.

Indispensable operation.

That's the point.

So many are performed that are not.
Probilin Pills literature on request.

MADE IN U.S.A.

**FURNISHED SIXTY IN AMBER VIAL
WITH GREEN LABEL AND RED SEAL
AT BEFORE-THE-WAR PRICE.
SCHERING & GLATZ, INC. NEW YORK**

Summer Bargains

Now is the time to pick up some excellent bargains in used X-Ray and Electro-Medical Apparatus at a fraction of its retail price. All apparatus is in good working condition and will be delivered and installed free of charge. Following is a partial list:

X-Ray Apparatus

- 3 Interrupterless X-Ray Transformers
- 3 Scheidel Western X-Ray Coils
- 1 Horizontal Fluoroscope
- 1 Hogan Silent Transformer
- Miscellaneous lot of Gas X-Ray Tubes
- 3 Dental X-Ray Coils

Therapeutic Apparatus

- 1 Model "F" Campbell High Frequency Coil
- 1 Model "E" Campbell High Frequency Coil
- 1 Model "I" Campbell High Frequency Coil
- 1 Model "E" Thompson-Plaster Coil
- 1 Strong Ovington High Frequency Coil
- 1 Victor Multiplex Sinusoidal Machine
- 1 Victor Sun Arc Lamp

Call for a demonstration

Clapp Anderson Co.

Suite 431

120 Boylston St.

Boston, Mass.

ARE YOU GETTING RESULTS?

Success in the lactic treatment depends not only on the mere administration of any culture of *Bacillus Bulgaricus*—the factor of viability is all important.

B. B. CULTURE is issued in a form which insures maximum value and may be relied upon for results when indicated.

B. B. CULTURE LABORATORY

INCORPORATED

YONKERS, NEW YORK

(Continued from page iv.)

a number of non-syphilitic conditions, which are influenced adversely by that disease.

Their use has been recommended in conditions in which arsenic is indicated. In such case the effect is alternative rather than specific, and ordinarily there is no special advantage over liquor potassii arsenitis.

There is a limited effect on certain protozoal diseases, as malaria (tertian and quotidian), some of the trypanosomiasis and leishmaniasis. It is possible, however, that this effect may be non-specific.

With the exception of anthrax, and possibly glanders, few favorable results are reported in bacterial diseases.

Except in Vincent's angina, arsphenamin and neoarsphenamin should be administered intravenously in medium-sized dosage. Two or three injections usually accomplish the desired purpose, except in pulmonary spirochetosis, which may require a series of injections. In diseases showing liver involvement, it has been recommended that neoarsphenamin be given on account of its supposed lesser degree of toxicity. [E. H. R.]

PHYSIOLOGY.

STUDIES IN BASAL METABOLISM.

SNELL, A. M., et al (*Jour. A. M. A.* Aug. 21, 1920) summarize this very thorough piece of work as follows:

1. The gasometric method of indirect calorimetry is a reliable and practical clinical method for determining the basal metabolic rate.

2. The basal metabolic rate is of the greatest significance in diseases of the endocrine system, particularly in diseases of the thyroid, revealing the extent of the increase in metabolism in exophthalmic goiter and in thyrotoxic adenoma, and the extent of the decrease in metabolism in cretinism and myxedema and allied conditions.

3. The basal metabolic rate furnishes an accurate index to the results of medical and surgical treatment of these conditions, and thereby becomes of value as a guide to treatment.

4. The basal metabolic rate is of value in revealing the effect of drugs on metabolism. [E. H. R.]

NEUROLOGY.

ENDOCRINE UNBALANCE IN THE FEEBLE-MINDED.

RAIDER, O. J. (*Jour. A. M. A.* Aug. 21, 1920) states that the internal secretions begin to exert their influence early in the life of the organism. It is known that permanent adjustments of the other glands and tissues follow on the absence or dysfunction of one gland or set of glands. In order to avoid such permanent changes as infantilism, dwarfism, acromegaly, microcephaly and feeble-mindedness, it is imperative that these conditions be recognized and remedied by supplying the deficient hormone or inhibiting the hyperfunction of a gland early in the course of the disease. After permanent adjustments have formed, improvement is difficult; with early treatment, results are often little short of marvelous.

Much of the finer pathology of the ductless glands is concerned with biochemical reactions. Further studies of feeble-mindedness by physicochemical and roentgenologic research would no doubt throw more light on this obscure field. [E. H. R.]

LOESER'S INTRAVENOUS SOLUTIONS



A Pharmacist's Contribution to Progressive Medicine

Sterile stable solutions of U. S. P. and standard salts prepared by a rigid laboratory method so as to be acceptable to the blood stream.

For the progressive physician seeking improved clinical results.

Send for reprints and list of intravenous solutions.

NEW YORK INTRAVENOUS LABORATORY

Producing Ethical Intravenous Solutions for the Medical Profession Exclusively

100 WEST 21st STREET, NEW YORK CITY

NOW ENTIRELY AMERICAN

Made by the Original Processes

Sajodin

PALATABLE and EFFICIENT
IODIN MEDICATION

Especially for Prolonged Use
as in

Arteriosclerosis

and when Iodides disagree

Adalin

THE SAFE and DEPENDABLE
HYPNOTIC and SEDATIVE

For Treatment of the Common Forms
of

Insomnia

and for Nervousness

VERONAL and VERONAL-SODIUM

The Well-Known Hypnotics

Sold Exclusively by

WINTHROP CHEMICAL COMPANY, Inc.

189-191 Franklin Street

New York, N. Y.



Adrenalin in Medicine

2—Treatment of the Paroxysm of Asthma

THE fact that Adrenalin promptly relieves the paroxysm of bronchial asthma has been demonstrated in thousands of cases. Explanation of its mode of action, however, must be couched in the language of probability and speculation, because the pathogenesis of the disease is the subject of an ever-increasing number of theories and much controversy.

Among the more reasonable and credible of these theories are: 1, Anaphylactic manifestations in the bronchial mucosa from bacterial protein sensitization; 2, The same condition produced by sensitization to food proteins (allergy), pollens of plants and animal emanations; 3, Reflex vagus irritation of the bronchial mucosa from peripheral afferent impulses originating along the course of distribution of this nerve.

It is not unlikely that every case of

bronchial asthma can be explained by one of these theories, and that, indeed, in some of the cases more than one of these factors are underlying. Regardless of the theory or theories applicable to any given case, the immediate mechanical cause of the distressing paroxysm is a sudden spasmodic stenosis of the bronchioles.

Adrenalin is the best emergency remedy for the treatment of the asthmatic paroxysm at the command of the physician. Two to ten minims of Adrenalin (1:1000) are given subcutaneously, or preferably intramuscularly. Frequently only five or ten seconds elapse after the injection when partial alleviation of the dyspnoea is noticed. In a few minutes relief is complete. Adrenalin acts quickly or not at all. In those few cases in which no favorable effect becomes apparent after the first injection this medication should not be pushed.



Parke, Davis & Company

RADIUM

Radium salts of the highest purity for use in surgery and gynecology. Deliveries on the basis of U. S. Bureau of Standards measurement.

We guarantee that the radiations of our Radium salts are due solely to Radium element and its own decomposition products.

Our Medical Staff will give instruction in the physics and therapeutics of Radium. "The National Radium Bank" instituted by this corporation.

We manufacture improved applicators, screens and other special equipment made with alloys of our own development, also apparatus for the purification and concentration of Radium emanation.

Information on request.

THE RADIO CHEMICAL CORPORATION

56-58 Pine Street, New York

Telephone, John 3141

Plants and Laboratories: Orange, N. J.

Mines: Colorado, Utah

"If You Have a Truly Tasteless Castor Oil —

I want to know it and will be glad to use it." This sentiment, expressed by one physician, voices the attitude of the entire medical profession.

Kellogg's Tasteless Castor Oil is made tasteless by refinement, not by the addition of any flavoring or disguising substance.

Kellogg's Tasteless Castor Oil is really tasteless; in fact, it has been substituted for olive oil in mayonnaise dressing without detection!

Kellogg's Tasteless Castor Oil is specially prepared for medicinal use. It is not only possible but easy to administer this

most valuable agent in the treatment of obstipation, stasis, intestinal toxemia, hemorrhoids, asthma, acute bronchitis, and other conditions for which it was recommended in the Papyrus Ebers, and other ancient medical works and by physicians from Galen and Dioscorides down.

A clinical test of *Kellogg's Tasteless Castor Oil* will demonstrate its supremacy over ordinary castor oil or any flavored or disguised product offered as a substitute.

Send for interesting booklet on "*The Therapeutic Uses of Oleum Ricini*"—and sample if desired.

Sole Distributor

WALTER JANVIER, Inc., 417-421 Canal Street, New York, N. Y.

LISTERS DIABETIC FLOUR

ABSOLUTELY STARCHLESS AND SUGARLESS

LISTERS Diabetic Flour is made by our own original, exclusive process. A blend of specially prepared caseins; contains no purins; entirely free from starches and sugars. About 95% is assimilated and 90% goes into energy.

SELF RISING—Extraordinarily versatile. Easily made into strictly non-carbohydrate Diabetic Bread, Cookies, Muffins, Biscuits, Noodles, Pancakes, Dumplings, French Toast, etc.—delectable to both the eye and the palate; nourishing; healthful; and of great assistance in breaking up the depressing monotony of the usual Diabetic diet.

Packed in Small, Carefully Measured Boxes

each containing just enough flour to make one loaf of Diabetic Bread—the right amount per day for the average patient.

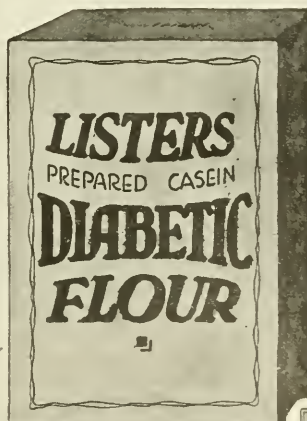
A Month's Supply—30 boxes \$4.85

Fifteen Days' Supply—15 boxes 2.75

Will be sent direct to the physician or to his patient. Or write us for name of our Agent in your locality

LISTER BROS., Inc.

405 Lexington Avenue, New York City





"Snook" Roentgen Apparatus

The first "interrupterless" type X-ray transformer was the "Snook"—the advent of which revolutionized the Roentgen art.

It is still the closest approach to the 100% mark in X-ray efficiency.

There is one, and one only, "Snook" available today—it is manufactured by the Victor Electric Corporation—distinguished from all others by the famous "cross-arm" type of rectifying switch (4-arm).

The purchaser of a "Snook" today realizes another exclusive feature in the Victor Single Lever Auto-Transformer Control, an ingenious device which gives the operator complete control, including the finest adjustment, with a **Single Lever**—eliminating complications in technique and danger of tube destruction.

The Model "Snook" is selected by the discriminating roentgenologist who insists on having the "last word" in equipment.

Victor Electric Corporation

*Manufacturers of
Roentgen and Physical Therapy Apparatus*

CAMBRIDGE, MASS.
66 Broadway

CHICAGO
Jackson Blvd. and Robey

NEW YORK
131 E. 23d St.

Territorial Sales Distributors

CAMBRIDGE, MASS.:

MESSRS. SAXBY & OYLER
66 BROADWAY



X-RAY INVESTMENT INSURANCE

Before you invest in stocks or bonds, you use every means at your command to ascertain the soundness of the issue, the financial responsibility and the personnel of the organization soliciting your confidence.

A reliable x-ray equipment represents another kind of investment, but its your money that's involved just the same.

The keystone of the Victor Electric Corporation is Responsibility to every purchaser of Victor apparatus. Each time the prospective buyer looks us up, we realize an advantage —so does he.

Thirty years of conscientious effort to lead, rather than follow, is only one of the reasons for the predominance of Victor apparatus amongst the discriminating.

Buy Victor—a safety first on your investment.

VICTOR ELECTRIC CORPORATION

Manufacturers of Roentgen and Physical Therapy Apparatus
CAMBRIDGE, MASS. CHICAGO NEW YORK
66 Broadway Jackson Blvd. and Robey 131 E. 23d St.

The Case For Coffee

Number Nine

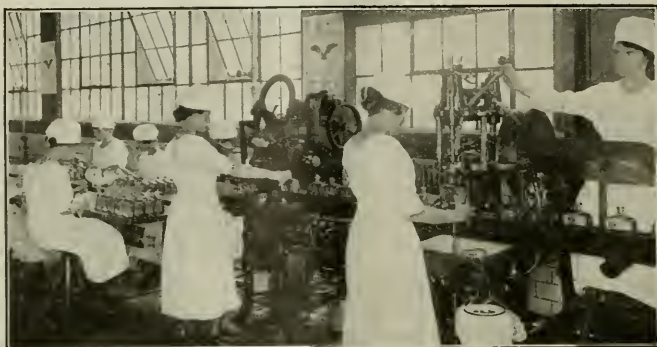
Hippocrates recognized the influence of temperament in the production of symptoms. It is often said that "as a nation we live and work and play upon our nerves." To "nervousness" is ascribed much of the functional disturbance that provides physicians with many patients. Why deny the fact? But on the other hand, why attempt to saddle upon certain articles of food or drink the onus of inducing "nervousness?"

Take coffee for example, accused of producing nervousness by over-stimulation of cardiac or cerebral functions. Nervousness is a mental phenomenon mostly. Excessive fatigue, overuse of muscles or mind, overwork of digestive organs, increased mental strain, worry, insistence upon brain effort in spite of Nature's effort to rest and to recuperate, impaired nutrition favored by impure or

anemic blood, laden with toxins absorbed as a result of intestinal stasis, deficient oxidation or exercise, excessive use of vital forces, all these are upon analysis the causes of "nervousness." Yet how often patient and physician make or attempt to make coffee a scapegoat for symptoms complained of!

Analysis of symptoms, of secretions, and excretions, of habits, will, almost without exception, point away from coffee and toward some more rational and direct exciting cause. Withdrawal of coffee does not often remedy the condition. Removal of the real causes, usually permits of resumption of the use of coffee. Forbid coffee if you can convince your reason that it is in part responsible. But do not make it a scapegoat to excuse or avoid getting at the real cause.

See next issue.



Finest Technical Equipment

THE Nujol Laboratories contain the most modern equipment. Everything that light, cleanliness, order and skilled supervision can accomplish has been done to make the home of Nujol the last word in sanitary science.

The expert chemists of the Nujol Laboratories of the Standard Oil Co. (New Jersey) have been able to produce absolutely pure Liquid Petrol-

tum of every viscosity from a water-like fluid to a jelly.

The viscosity of Nujol was determined after exhaustive research and clinical test, and is in strict accord with the opinions of leading medical authorities.

Sample and literature based on the writings of Sir Arbuthnot Lane and other eminent authorities will be sent gratis. Mail coupon below.



Nujol Laboratories, Standard Oil Co. (New Jersey), 44 Beaver St., Room 758, New York.

Please send me booklets marked.

() "A Surgical Assistant"
() "In General Practice"

() "In Women and Children"
() Also Sample

Name _____

Address _____

From the Frying Pan Into the Consulting Room

IT IS becoming increasingly manifest that improperly selected food, and improperly cooked food may be the specific causes of all sorts of under-oxydation disorders—such as nephritis, diabetes, rheumatism, blood pressure changes, indigestion, malnutrition and anemia.

Professor William H. Porter, in his new book, "Eating To Live Long," in discussing the question of what bad food does to good health says:

"Animal fats have a low burning point. If used at a temperature that would adequately cook the meat, fish, or other food, they proclaim to the entire neighborhood just what the family is going to have for dinner—to say nothing of the fact that the meat being prepared is rendered almost indigestible by its protracted seance in the frying pan.

"If broiling is not practicable, it is possible, through the use of corn oil—or some oil capable of being heated to 600° or more

before the burning point is reached—to greatly help in taking the teeth out of the frying pan, and at the same time serve to make the food more palatable and digestible."

Mazola is used now by more than seven million housewives in all cooking, baking, frying and sauteing—and also as a pure salad oil, quite as good, in the opinion of many connoisseurs, as the very finest imported Italian Olive Oil.

Suggest to your patients Doctor, that they try Mazola while they are under your care, and see what a difference it will make in them.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York City



MAZOLA IS SOLD BY ALL GROCERS EVERYWHERE

PHILLIPS' MILK OF MAGNESIA

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic—Vehicle for
Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cow's Milk for Infant and Invalid Feeding

Phillips' Phospho-Muriate of Quinine

COMP.

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be Relied Upon
Where a Deficiency of the Phosphates is Evident

NEW YORK THE CHAS. H. PHILLIPS CHEMICAL COMPANY LONDON

Canadian Agents: The Wingate Chemical Co., Ltd., 545 Notre Dame, West, Montreal.

The
Management
of an
Infant's Diet

In extreme emaciation, which is a characteristic symptom of conditions commonly known as

Malnutrition, Marasmus or Atrophy

it is difficult to give fat in sufficient amounts to satisfy the nutritive needs; therefore, it is necessary to meet this emergency by substituting some other energy-giving food element. Carbohydrates in the form of maltose and dextrins in the proportion that is found in

MELLIN'S FOOD

are especially adapted to the requirements, for such carbohydrates are readily assimilated and at once furnish heat and energy so greatly needed by these poorly nourished infants.

The method of preparing the diet and suggestions for meeting individual conditions sent to physicians upon request.

MELLIN'S FOOD COMPANY,

BOSTON, MASS.

The Boston Medical and Surgical Journal

TABLE OF CONTENTS

October 7, 1920

ORIGINAL ARTICLES

ORCHITIS IN MUMPS. <i>By Conrad Wesselhoef, M.D., Boston</i> (continued).....	425
WHY RELIEF OF JOINT TROUBLES IS EASY OR DIFFICULT. <i>By</i> <i>Herman W. Marshall, M.D., Boston.</i>	430
THE INFLUENCE OF THE MEDICAL PROFESSION ON MEDICAL LEGISLATION AND THE PUBLIC WELFARE. <i>By John B.</i> <i>Hawes, 2nd, M.D., Boston</i>	439
TRANSFUSION IN OBSTETRICS. BLOOD MATCHING AS A ROUTINE ON PREGNANT PATIENTS. <i>By R. S. Titus, M.D., Boston.</i>	443

EDITORIALS

THE TRAINING OF RELIEF NURSES.....	444
INFANT AND CHILD WELFARE WORK IN BOSTON.....	444
A PROFESSIONAL PROTEST.....	445
MEDICAL NOTES.....	445

OBITUARY

JOHN MORGAN, M.D.	447
------------------------	-----

MISCELLANY

EXAMINATION, NOTICES, RECENT DEATHS, ETC.	447
--	-----

Original Articles.

ORCHITIS IN MUMPS.

BY CONRAD WESSELHOEF, M.D., BOSTON,

*Visiting Physician, West Department (contagious),
Massachusetts Homeopathic Hospital.*

[From the Evans Memorial Hospital, Boston.]

ORCHITIS is the most common complication of mumps. To many practitioners it seems the only thing to be afraid of in the course of this contagious disease, the fear apparently being that testicular atrophy will follow, and that this will result in sexual impotency. Yet although this form of orchitis may give rise to considerable pain, and may cause inconvenience to the patient, it does not follow that the condition in itself or the atrophy that may result is generally so serious to the individual as is commonly supposed to be the case. A study of the subject brings to light much that is of interest and of practical value, and tends to allay the fears based upon an incomplete understanding of the nature of the condition, its end results, and the possibilities in the way of treatment.

Orchitis was described as a complication of parotitis in the Hippocratic writings. In 1752 Prato-longo mentioned orchitis as a frequent complication of the parotitis then epidemic at

Gênes, and in 1761 Hamilton, in his classical description of mumps, raging at the time in Scotland, brought out the frequency of testicular involvement with subsequent atrophy of the gland.¹ By the beginning of the nineteenth century the medical profession of Europe, Great Britain, and America were generally aware of the contagiousness of mumps and the frequency of orchitis as a complication. During the last century a considerable amount of literature accumulated on the subject, which culminated in an excellent review of the subject by Laveran in 1879.² This work aroused great interest among the medical officers of the French Army, and to their efforts we owe to a large extent our present knowledge of the disease itself and its complications. The subject of orchitis in this connection was brought up to date by Comby¹ in 1893 and again by Schottmüller³ in 1904. Since then although there have been résumés in textbooks and an occasional essay or note on some particular phase of the subject, no attempt has apparently been made to codify our information.

THE RELATION OF THE PAROTID GLAND TO THE GENITAL ORGANS.

The predilection of the testicle to the virus of mumps is a matter of considerable interest. The relation of the testicle to the parotid

gland has attracted the attention of several authors. In certain vertebrates we find a definite physiological connection between the sex organs and the salivary and facial glands. Owen*

Owen, R.: *Anatomy of Vertebrates* (London, 1866) Vol. 1, p. 615.

states that during the breeding season, "a musky odor is emitted by the submaxillary glands of the crocodile, and pervades their haunts." In the swiftlets the salivary glands become peculiarly active in the breeding season, and secrete a substance akin to mucin, with which they form their snow-white nests—the edible bird's nests of the Chinese epicures.†

Geddes and Thomson: *The Evolution of Sex* (New York, 1890), p. 231.

Darwin‡ informs us that during the rutting season "the glands on the sides of the face of the male elephant enlarge and emit a secretion having a strong musky odor." It is also said that in camels the salivary glands are enlarged in the breeding season.¶ The Indian antelope possesses odoriferous glands about the face which are usually larger in the male than in the female, "and their development is checked by castration."**

Darwin, C.: *The Descent of Man* (New York, 1872), Vol. ii, pp. 27, 266, 267.

season "the glands on the sides of the face of the male elephant enlarge and emit a secretion having a strong musky odor." It is also said that in camels the salivary glands are enlarged in the breeding season.¶ The Indian antelope possesses odoriferous glands about the face which are usually larger in the male than in the female, "and their development is checked by castration."**

Owen, R.: *Anatomy of Vertebrates* (London, 1866), Vol. iii, p. 632.

The idea is held by some that the bite of venomous snakes is more deadly during the breeding season. Were this true, it would be an interesting point in the above discussion, since "the poison gland of the snake is a modified form of the glandola labialis superior, and in all probability is equivalent to, if not identical with, the parotid of the mammalia." (Noguchi, H.: *Snake Venoms*, Pao, 111, *Carnegie Institute Wash.*, 1909, xvii, p. 47.) Those snakes which hibernate are particularly active in all respects when the warm weather brings them again out into the open, and it is possible that with their increased metabolism the secretion of venom may be augmented. This is, however, merely coincident and not necessarily dependent on the increased activity of the sexual function. In the tropics no such idea seems to prevail. This is not surprising when we consider that a six-foot Cape cobra injects 15 to 20 times a lethal dose of his venom with one good bite. (Fitzsimons, F. W.: *The Snakes of South Africa*, London, 1912, p. 347.) The idea that snakes are more deadly during the breeding season cannot be ascertained from Noguchi or Fitzsimons in the books referred to above, nor from Calmette. (Calmette, A.: *Venoms*, trans by Austin, E., N. Y., 1908), or Mitchell (Mitchell, S. W.: *Treatment of Rattle-Snake Bites*, Philadelphia, 1861).

Thus some remote connection between the salivary glands and the generative organs in man is suggested by the Darwinian theory of evolution and clinical evidence gives us abundant examples of the interrelationship of these two parts of the human body. After various injuries to the genital organs, such as catheterization, prostatectomy, insertion of a pessary, pelvic operation, delivery, abortion, etc., and even in the course of menstrual disorders and during the menopause, we sometimes have an acute simple parotitis.

Several instances have been recorded of repeated and simultaneous swelling of the paro-

tid gland with each menstruation.† In certain

Paget: *op. cit.*, p. 615; Morel: *op. cit.*, p. 55; Dalché, P.: *Reaction parotidienne à la ménopause*, *La Gynécologie*, August, 1903, p. 309.

cases the swelling of the parotid seems "to have replaced the menstrual flow."‡ Enlarge-

ment of the parotid has been observed to accom-

pany each successive pregnancy.§ Finally, the

parotid has been known to enlarge during or

after the menopause.¶

place at each menstruation, and another where

there was a definite diminution of parotid secretion with each period. Baisch† considers

Baisch, K.: *Hyperemesis und Pityriasis in der Gravidität*, *Monatsh. f. Geburtsh.*, July, 1904, p. 47.

the disturbances of the sense of taste which occur during pregnancy as due to a reflex action on the gustatory nerve, referred from the genital organs. He holds that the salivation in pregnancy may be the result of a reflex through the nervous system acting on abnormally sensitive nerves—regardless of the vomiting and its natural stimulation of salivation. His thesis, though not convincing, offers much experimental and clinical evidence pertaining to the relation of the parotid gland and the sexual organs.

Postoperative parotitis has been the subject of considerable discussion and research. Stephen Paget,* in 1887, collected 101 cases of

this condition, of which but 15 showed "septic

symptoms," "septicaemia," or "pyaemia." He discredited the prevailing idea that the parotitis was always the result of pyaemia or oral sepsis, and without venturing on any explanation satisfactory to himself, suggested that the condition might in some way be related to the connection which exists between the parotid gland and the genital organs via the sympathetic nervous system. Bachmann† in 1907

argued that postoperative parotitis is always due to oral sepsis, and that the relatively open position of the mouth of Stenson's duct in comparison with that of Wharton's and Bartholini's ducts, is the predisposing factor.

Morel‡ in 1908 gave out an extensive monograph on this subject. Out of 84 cases, three followed operations on the urinary tract, six

on the digestive tract, and 76 on the genital tract. The incidence of parotitis was the same in both sexes.*

Morel⁶: *op. cit.*, p. 108.

Postoperative parotitis may follow any operation, just as suppurative parotitis may occur during any serious illness where oral sepsis is present. But aside from cases originating from pyaemia and oral sepsis, there appears to be a particularly high incidence of parotitis after injury to the genital tract, and especially after injuries to the ovaries and testicles; furthermore, this parotitis in the majority of cases is of the simple type, and clears up of itself.†

In Paget's series "in 93 cases out of 101, it was an isolated lesion, unaccompanied by any other inflammation like itself." (*loc. cit.*)

For a further consideration of the etiology of post-operative parotitis see Jacob⁷ *op. cit.*, p. 552; Taylor, F. T.: The Connection between the Parotid Glands and the Sexual Organs, *Lancet*, London, Jan. 30, 1886, 1, p. 120; Schottmüller⁸, *op. cit.*, p. 54; Deaver, J. B.: Post-operative Parotitis, *Ann. of Surg.*, Philadelphia, 69, Feb. 19, 1919, p. 125.

When the orchitis is suppurative, the subsequent parotitis is also apt to be suppurative, and *vice versa*.*

Reasoning from analogy on the theory propounded by Abderhalden regarding the chemotaxis of groups of tissue cells in various parts of the body for certain poisons or foreign substances, and the theory advanced by Rosenow regarding the different selective affinities of certain strains of a given organism for certain tissues of the body, one can conceive of the pathological relationship between the orchitis and the parotitis in mumps. Such a speculative hypothesis—based on a combination of these two theories, on our meagre knowledge of the virus of mumps, and on clinical observations—offers at least a conception, vague though it may appear, of this phenomenon which has interested the medical profession for so many years.*

Paget's tentative theory of the relation of the parotid gland to the genital organs through the sympathetic nervous system offers an explanation of the physiological phenomena in this connection, but it does not suffice as an explanation of the pathological relationship in the course of an infection nor is it supported by the animal experimentations of Morel.

In order that such an hypothesis may not appear too arbitrary, it is well to mention some of the ideas hitherto advanced concerning the cause of testicular involvement during mumps. Schneider[†] considered masturbation as a causa-

Quoted by Pliquet⁹.

tive factor in the development of orchitis. Duker⁸ asserted in 1899 that if patients were kept in bed eight days, orchitis would not develop, implying that the metastasis was induced by bodily activity during the acute stage of the

parotitis; but he afterwards retracted this statement, as we shall see later. It was held by some that the contagion was carried from the mouth to the urethra by hand, and thus to the testicle. This notion has been disproved by the clinical researches of Lewis, who found that careful sterilization of the hands and protection of the glans penis did not reduce the incidence of complication.*¹⁰

INVOLVEMENT OF OTHER GLANDS.

That the metastasis takes place through the circulation is evidenced by the fact that the virus of mumps attacks the ovary as well as the testicle. Oöphoritis is far more common in mumps than is generally supposed, but it is too commonly overlooked.¹⁰ Josephson¹¹ has recently given a most complete monograph on this subject. Bartholini's glands¹ may become swollen in the course of mumps, and mastitis has frequently been reported as a complication in both males¹² and females.¹³ Adenitis, dacryocystitis, pancreatitis, and enlargement of the thyroid and thymus* are mentioned

"Castration or spaying causes an enlargement of the thymus gland, even in the mature animal in which this gland has undergone considerable involution." Howell, W. H., *Text-book of Physiology*, 6th edition, Philadelphia, 1915, p. 886. The functional relationship between the sexual organs and the ductless glands must be borne in mind in a consideration of the complications of mumps. See Marshall, F. R.: *The Physiology of Reproduction*, London, 1910.

among the complications of this disease, just as any of the salivary glands may become involved in mumps, so that the testicle is not the only portion of the male genital tract which suffers. Among 115 cases of mumps at Châlons recently reported by Ramond and Goubert¹⁶ there were five cases of orchitis, 20 of epididymitis, 40 of funiculitis, and 23 of prostatitis and vesiculitis. Barthez and Sanné reported five cases of "urethritis,"¹¹ and other observers have noted a urethral discharge lasting from one to three days with negative bacteriological findings, and in which gonorrhea could be practically ruled out. The question arises whether this urethral discharge is the result of a urethritis or comes from an involvement further up.

The prostate unquestionably may become involved, with pain and definite enlargement on rectal examination, and with a urethral discharge. This may be a much more serious complication than the orchitis, so far as the late effects are concerned. Prostatic atrophy is far more apt than orchitis to bring about sterility, because insufficient prostatic fluid during the emission greatly decreases the chances of fertili-

zation of the ova, whereas a sufficient amount may carry even a diminished supply of spermatozoa to a successful fecundation. The incidence of prostatic involvement and subsequent atrophy due to mumps cannot be determined from the literature, but Robinson¹³ records seven cases of partial or "complete" atrophy of the prostate "in which an antecedent parotitis seemed to be the sole etiological factor." As a cause of sterility in the male this neglected complication of mumps should receive more attention.

THE INCIDENCE OF ORCHITIS IN MUMPS.

Orchitis as a complication of mumps is confined to the age of puberty and adolescence. Rare exceptions to this are on record. Steiner¹⁴ reports a case of orchitis in a nursing infant nine months old.* Fabre¹⁵ reports a case in a

During an epidemic of mumps the father, mother and infant all contracted the disease; the father and the infant both having orchitis. In the latter the right testicle was involved. The left testicle was not fully descended.

The case of orchitis in a boy of four, cited by Comby¹ from de Grenville,² does not appear to be a case of mumps. The original article suggests a case of septicemia and general adenitis.

boy of nine, and Armand[†] reports orchitis fol-

Quoted by Comby, F., in *Traité des maladies de l'enfance*, by Grancher, Comby, and Marfan, Paris, 1897, p. 278.

lowed by atrophy in a boy of eleven. The incidence of orchitis apparently decreases in direct proportion to the incidence of the disease in advancing years.

The occurrence of orchitis varies in different epidemics of mumps, just as the disease itself varies in severity as well as in its complications. In schoolboys the incidence is much the same as in soldiers, and is subject to the same variations. Luehe¹² had only one case of orchitis among 118 cadets. Dukes⁶ found a variation from 3.3% to 37.5% in different epidemics of mumps at Rugby School. During the same epidemic the incidence of orchitis varies greatly. In April, 1915, Massary and Tockmann¹⁷ found orchitis in 27%, and in May of the same year in only 5%, with practically the same number of cases of mumps in each of these months. In Capitan's¹⁸ series of 700 cases of mumps at the military hospital at Bégen, there were 50 cases of orchitis out of 316 cases of mumps in 1914, 1915, and 1916, or 16%; in 1917, there were 28 cases out of 189, or 15%, and in 1918 there were 49 cases out of 195, or 25%. At the Military School in Halifax, Brown¹⁹ found orchitis in 50% in one epidemic of 20 cases. In 12 cases

of mumps on board H. M. S. *Ardent*, reported by Noble,²⁰ orchitis developed in every instance.

Weigert²¹ found that, out of 39 cases of mumps from the cavalry, 11 developed orchitis, while out of 40 cases of mumps from the infantry only one developed this complication. These findings so impressed this medical officer that he recommends dismounted drill for cavalry during an epidemic of this disease. Weigert's conclusions are not supported by such military and naval statistics as I have been able to collect. Out of 1106 cases of mumps in infantry 249, or 21.6%, developed orchitis. From the cavalry I could collect only 123 cases of mumps, of whom 25, or 20.3%, developed orchitis. If we add to these the 39 cases of Weigert we have 162 cases among cavalry with orchitis in 22.2%, which is practically the same as among infantry. We might as well advise shore duty for sailors under such circumstances, in view of the statistics from the good ship *Ardent* with orchitis of 100%, were it not that Manine²² found 13 cases of orchitis out of 122 cases of mumps on ships of the French Navy, or 11%, while Clement* found 122 cases of or-

Unpublished statistics on the complications of 443 cases of mumps from the U. S. Navy treated at the Haynes Memorial Contagious Hospital during 1917 and 1918, by Samuel A. Clement, M.D., resident physician.

chitis out of 443 men and officers with mumps from the United States Navy, or 28%,—most of whom were doing shore duty. Weigert's recommendation is extremely interesting, but it lacks convincing testimony in its favor.

Védreñest[†] found, in a study of 25 epidemics

Cited by Schottmüller, *op. cit.*, p. 44.

of mumps, an incidence of orchitis in 26%. Longuet[‡] collected 1555 cases of parotitis with

Cited by Soltmann,²³ *op. cit.*, p. 248.

389 cases of orchitis, or 25%. Out of 4397 cases of mumps at Camp Wheeler, Radin[‡] reports orchitis in 13.91%.

From the records at my disposal in which the percentage of orchitis is given, I have collected from all sources 8153 cases of mumps, with 1468 cases of testicular involvement, giving a total incidence of 18.0%.

UNILATERAL AND BILATERAL ORCHITIS.

The orchitis may be unilateral or bilateral. Strange to say, the right testicle is said to be more often affected than the left. The statistics I have accumulated seem to justify this idea, but the difference is not sufficiently great

TABLE I.
THE INCIDENCE OF ORCHITIS IN MUMPS.
Infantry.

AUTHOR	REFERENCE	CASES OF MUMPS	CASES OF ORCHITIS	ORCHITIS PER CENT.
Granier	24	495	115	
Delmas	25	125	21	
Servier	26	84	23	
Martin	27	48	9	
Calmette	28	55	10	
Laurens	29	118	32	
Jouloux	30	55	14	
Chauvin	31	45	16	
Weigert	21	40	1	
Jourdan	32	61	8	

TOTAL 1106 249 21.6

Cavalry.

Madamet	33	56	7	
Gérard	34	43	13	
Fournié	35	24	5	
Weigert	21	39	11	

TOTAL 162 36 22.6

Miscellaneous Branches: Army and Navy.

Cairin	26	159	43	
Servier	26	21	8	
Antony	37	42	7	
Rizet	38	22	10	
Noble	20	12	12	
Manine	22	122	13	
Luehe	12	122	1	
Comby*	1	165	60	
Helber	39	15	5	
Brown	19	20	10	
Massary and Tockmann ...	17	243	59	
Capitan	18	690	127	
Moser and Arnstein	40	30	3	
Radin	9	4397	611	
Clement	1.c.	443	122	
Sorel	56	35	15	
Settekorn	71	38	13	

TOTAL 6576 1119 17.1

Civilian.

Dukes	8	186	43	
Edgecomb	41	23	2	
Tuke	42	10	1	
Hammersley ...	43	80	18	

TOTAL 309 64 20.7

Summary.

Infantry	1106	249	21.6
Cavalry	162	36	22.2
Misc. Army and Navy	6576	1119	17.1
Civilian	309	64	20.7

TOTAL 8153 1468 18.0

to warrant us in attaching any significance to the matter. Bilateral orchitis is considerably less frequent than bilateral parotitis.* The ac-

In Massary and Tockmann's series of 243 cases of mumps there were 191 cases of bilateral parotitis or 79%, and 52 unilateral cases, or 20%, of which 26 were on the left side and 26 on the right (*loc. cit.*).

In 128 cases of bilateral parotitis reported by Catrin, 55 began on the right side, 53 on the left side, and in 14 both parotids began to swell simultaneously (*op. cit.*, p. 638).

In a recent series of 120 cases reported by Gradwohl¹⁶ *et al.*, the right parotid was involved in 70 cases and the left in 77; bilateral parotitis occurred in 43.

companying table shows 209 cases of orchitis out of a total of 1208, or a percentage of 17.0. When both testicles are involved, one is apt to become affected three to nine days after the other, rather than the two simultaneously. It is sometimes observed that the orchitis develops on the same side as the parotid swelling, and that with the involvement of the other parotid the other testicle becomes affected. This was particularly so in three small series (Noble,¹⁸ Dukes,⁸ Brown¹⁹). More stress has been laid on this coincidence than is warranted by the results recorded in the literature. According to the law of chances, with only two parotids and two testicles, the occurrence of the orchitis on the same side should not be looked upon as so remarkable. As a matter of fact the combinations seem to equal each other in the long run. The only thing of real interest and significance is that bilateral orchitis is proportionately less frequent than bilateral parotitis.

TABLE II.

INCIDENCE OF BILATERAL AND UNILATERAL ORCHITIS.

AUTHOR	REFERENCE	CASES OF ORCHITIS	RIGHT ORCHITIS	LEFT ORCHITIS	DOUBLE ORCHITIS
Rilliet	1	23	13	6	4
Jourdan	32	11	7	3	1
Servier	26	26	15	5	2
Catrin	36	43	18	12	13
Laurens	29	32	9	17	6
Dukes	Sc	6	4	2	0
Radin	9	554	231	221	102
Clement	1.c.	122	52	45	25
Settekorn	71	13	4	2	7
Heller	61	28*	12	14	2
TOTAL		858	365	327	162
Calmette	28	10			1
Rizet	38	10			7
Dogny	3	27			4
Jouloux	30	14			1
Ringsberg	45	279			33
Brown	19	10			1
TOTAL		350			47
TOTAL		1208			209

* Two of these were of doubtful mumps origin.

There is a general impression that the greater the severity of the parotitis, the more likelihood there is of testicular involvement. In my own experience this is to a certain extent true in so far as the concomitant involvement of parotid and testicle is concerned. That is to say, the severest cases of parotitis seem more apt to develop orchitis, and to develop this before the parotitis has subsided. Perhaps the apparent severity of the parotitis in these cases is really

the result of the prodromal symptoms of the orchitis, the general constitutional disturbance being thus augmented before the orchitis is recognized. It is particularly in these cases that we are apt to get the symptoms of meningismus or encephalitis. On the other hand, the late development of an orchitis seems to bear little or no relation to the severity of the preceding parotitis. It is also stated that orchitis is more apt to follow bilateral mumps than when only one parotid is affected. This is borne out in Catrin's series.* Again, it is my

In Catrin's series the 13 bilateral cases of orchitis developed after 13 cases of double parotitis; of the 30 unilateral orchitides, 26 were in cases of double parotitis, 2 occurred with a left, and 2 with a right parotitis (op. cit., pp. 634, 635).

experience that when the orchitis comes on within three or four days of the onset of the parotid swelling, the orchitis usually accompanies a bilateral parotitis, but when it is delayed one or two weeks, the preceding parotitis is just as apt to have been unilateral as bilateral.

(To be continued.)

WHY RELIEF OF JOINT TROUBLES IS EASY OR DIFFICULT.

BY HERMAN W. MARSHALL, M.D., BOSTON.

New methods continue to multiply for handling joint affections, and already there are more methods and agents extant than can be used skilfully, yet perfection in treatment has not been attained. Compared with the superabundance of kinds of treatments, unbalanced incomplete conceptions of natures of joint troubles stand in striking contrast.

Logically, therefore, some convenient device should be contrived whereby complex anatomic and physiologic relationships between organs that exert influences on joints directly or indirectly can be recalled more completely and accurately for quick making of clinical judgments in practice. Then, with improved conceptions and judgments, relief will be secured that otherwise will continue to be impossible indefinitely although methods and agents are greatly increased.

A graphic scheme is of service in illustrating the balance among favorable and unfavorable influences that always act in combinations on articular tissues, and of indicating a second balance existing between the sum of external

influences in their reactions with internal resistance within joints.

There are only four main ways by which any joint can be influenced, namely through

A. *Mechanical influences* due to body motions, pressures of body weight on joint tissues, and external traumata.

B. *External influences* of mechanical traumata and pressures, heat, cold, electricity, and light rays of various kinds.

C. *Nervous influences*.

D. *Vascular influences* of varied chemical and physical natures.

Internal resistances of joints to outside influences depend on

E. Variable initial resistances of joint tissues existing at birth.

F. Presence or absence of local disease originating within joints.

G. Influence of age, and the results of favorable or unfavorable combinations of external influences acting in the past on joints continuously or intermittently.

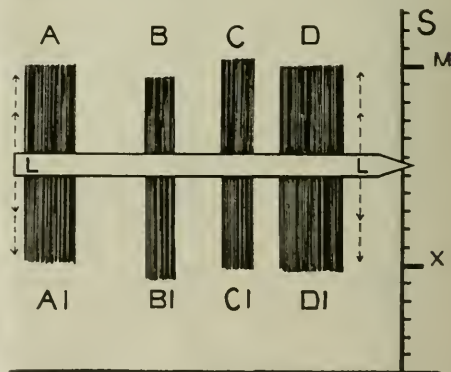


FIG. 1.—See text.

In Figure 1 let the balance of equilibrium between favorable and unfavorable outside influences be indicated by the arrow L, and the broad bands A, B, C, D, and A1, B1, C1, D1, may represent respectively the four main groups of favorable and unfavorable forces that are pulling it either upward or downward. The arbitrary scale S serves to measure the exact level of the balance of equilibrium of combined external forces from time to time.

Upon the scale S can be marked points X and M to represent ranges of internal resist-

ances of joints, for there will be always some point X on the scale below which the indicator L cannot descend without development of abnormal symptoms. This transition point of lowest normal joint function will vary in position from time to time according as external combinations remain at high or low levels, and dependent also on changes due to internal causes, local disease, and old age. There will be a variable upper limit M in the range of normal joint function from time to time that changes with changes of X.

Figure 2 attempts to represent roughly the variable levels of X and M in different individuals at birth, average levels for X and M, levels

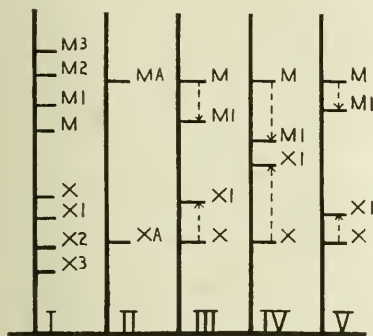


FIG. 2.—Graphic illustration of variable internal resistances of joints.

- I. M-X, M1-X1, M2-X2, M3-X3, arbitrary representations of different ranges of normal resistances of joints at birth in different individuals.
- II. MA-XA, arbitrary representation of average range of normal joint resistance.
- III. M-X shown narrowing in range to M1-X1 under influence of old age.
- IV. M-X shown narrowing in range to M1-X1 under influence of acute infection.
- V. M-X shown narrowing in range to M1-X1 under influence of chronic infection or other mild local joint disease.

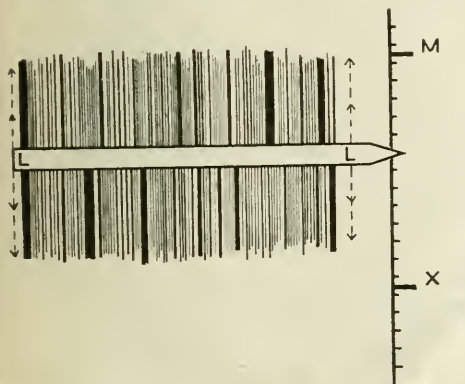


FIG. 3.—See text.

to represent old age, acute infections and chronic local infections.

Figure 3 is supposed to show the four main groups of forces separated into some of their component subdivisions, and it serves to emphasize the complexity of the balance between external forces acting on joints. A list appended below includes 64 favorable and 70 unfavorable items, and illustrates still more emphatically what is indicated graphically in Figure 3. The latter does not indicate unfortunately how any one or more trivial influences, either favorable or unfavorable, may grow slowly or suddenly to important size, or how any one or more prominent factors may dwindle suddenly or slowly into insignificance without loss of continuity of action.

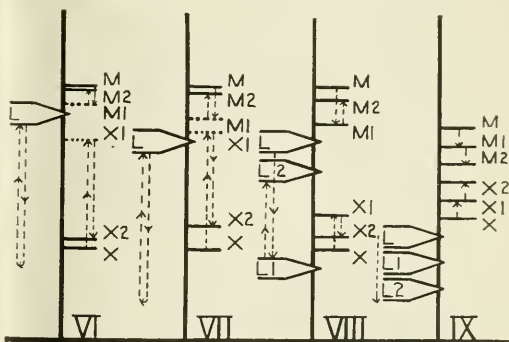


FIG. 4.—Graphic illustration of variations in balance of external forces and internal joint resistances under clinical conditions.

- VI. Moderate joint trauma. L sinks to a lower level and returns immediately to its previous level, M and X quickly narrow to M1-X1, then gradually return to M2-X2.
- VII. Severe joint trauma. L sinks to a still lower level abruptly and returns immediately to its previous position. M-X narrows quickly to a degree that leaves X above L at M1-X1. Inflammatory joint symptoms develop that gradually subside as M2-X2 is reached.
- VIII. Moderate toxic vascular condition with joint involvement. L drops slowly to L1 and then rises gradually with recovery to L2. M-X narrows gradually to M1-X1 with development of abnormal joint symptoms, then returns gradually with recovery to M2-X2.
- IX. Progressive disease with local joint involvement. L drops steadily from L to L1 and to L2. M-X narrows to M1-X1 and to M2-X2, tending to reach a range of zero as a limit.

Figure 4 illustrates a few clinical examples in which the indicator L changes position while X and M vary in response to outside influences.

This graphic scheme helps to show clearly the general nature of every arthritic problem, that the aim of all treatments consists in raising and maintaining a high level of the indicator L, also in increasing the range of joint resistance M-X through removal of internal joint defects.

The writer believes this standard conception should be kept in mind prominently in all clinical cases, and that peculiarities of each as

revealed in clinical histories, tests, and examinations should be assigned their proper places in it, with due regard to strengths and lengths of time of actions of each particular influence as well as to its kind. The use of a standard conception will tend to lead to greater avoidance of unbalanced judgments, will modify interpretations of clinical observations in important respects, and will direct attention to most vital phases of treatments. It may help to recall the truth of the following possibilities:

Improvements in patients' conditions noticed to follow single special therapeutic procedures may be results of different combinations.

H. A single special procedure may be a very important factor occasionally and outweigh all other changes in the balance so that it is the main cause for favorable results that ensue.

I. A single special procedure may represent a slightly favorable factor in ensuing changes, the latter being caused largely by unregulated changes or accompanying therapeutic measures on which little stress is laid.

J. A single special procedure may be practically neutral in its favorable and unfavorable effects, all improvements noted being due to unregulated changes or accompanying measures on which little or no stress is laid.

K. A single special procedure may exert a slightly or moderately unfavorable influence, yet ensuing changes may be favorable ones provided unregulated changes occurring, or accompanying therapeutic measures, are sufficiently great to outweigh the single special unfavorable influence.

Use of a standard conception may increase accuracy of judgments in many directions, and this means improvement in weakest, most important features of the present stage of medical progress and specialism when broad comprehensions of problems naturally diminish rapidly in accuracy as knowledge increases rapidly and becomes increasingly confusing.

OBJECTIONS TO USE OF A STANDARD CONCEPTION OF ARTHRITIS.

It may be argued by some persons that errors of judgment in using such a complicated conception will exceed errors attending the use of purely empirical methods. Probably this will be true when judgments are made in hasty superficial manner, yet solution of the difficulty lies in making better judgments nevertheless, not in extensions along em-

pirical lines that only make a bad situation worse. Furthermore, as knowledge extends and groups of influences known to act on joints are split into smaller, less important divisions to become objects of special study, the likelihood increases that unbalanced inferences drawn from such studies will become increasingly erroneous until finally medical practice approaches the effect of charlatanism disguised on a scientific basis, unless judgments can be improved in some manner.

Physicians not infrequently ask the question what difference it makes whether explanations and understandings are strictly correct as long as patients get well. This attitude did not advance medicine in the past, does not encourage confidence now, nor will it advance progress in profitable directions in the future. As long as complicated relationships exist they have to be met in rational scientific ways and not ignored.

PRACTICAL ADVANTAGES OF A STANDARD CONCEPTION.

The altered viewpoint that it gives the user directs his attention to (1) contradictory clinical results and clinical opinions, (2) to the commanding anatomic and physiologic position of the central nervous system in its relationships with joint affections, (3) to speculations as to natures of obscure types of arthritis, (4) and it increases his efficiency in treatment of patients.

1. If one examines special methods and apparently contradictory results as recorded in medical literature, and looks for precautions that have been taken in judging possibilities mentioned under H, I, J, K, of the foregoing table, frequently it appears that the latter have entered into consideration very imperfectly or not at all. Workers often select the possibility that helps most to prove the values of their investigations, and they do not convince their readers that other explanations are not more correct ones. The numbers of papers that state clearly their authors' understandings of balanced relationships existent between joints and other organs are not in the majority so that readers have to accept conclusions largely on faith. This situation is unavoidable to some extent. At any rate confusion and contradictions are traceable usually to differences in different observers' viewpoints and interpretations, and, as underlying truths do not change with different observers, elucidations and harmony

can come only through better general agreements.

Applied medical science has its distinct limitations and it fails sometimes when it attempts to include the field of logic or other exact sciences involved more or less in best treatments for patients. Clinical papers are seen to be untrustworthy not infrequently because they are obviously very illogical although correct in other important scientific respects.

A standard conception of arthritis therefore helps the user to judge, accept or reject with increased skill new information published in medical literature.

2. Obscure relationships between the nervous system and the joints are among the first to be lost from view amid the confusing abundance of facts that have to be considered. It is easy to remember that strong emotions of various kinds exert decided influences on many organs because it is possible to recognize lachrymation, sweating, salivation, muscular trembling, accelerated heart rate, increased secretion of urine, diarrhoea or nervous dyspepsia, accompanying or following such nervous activity. Less tangible are so-called trophic nervous disturbances, variations of muscle tone, and slight continuous nervous control supposed by some to be exerted on the functions of various organs.

These slight nervous influences always will remain beyond powers of belief of those persons who demand extremely simple plain proofs of the complicated workings of an extremely complicated mechanism, because their characteristics are inherently obscure. Yet removal of foci of depressing mental stimuli in certain types of chronic joint disease probably is of much more importance than removal of infective foci in some instances. Joints succumb presumably in some instances to mild continuous harmful effects of circulating bacterial toxins. At other times they presumably succumb to altered vascular conditions which are induced by more or less continuous, slightly imperfect nervous control of the various organs, and which produces accumulations or deficiencies of substances normally in circulation. Joints are harmfully influenced by such unusual proportions of normal substances as when circulating urates in gout are associated with abnormal joint symptoms. There may be direct trophic influence of the nervous system on joint tissues in addition, but the facts can be neither proved nor disproved experimentally.

The writer is convinced from practical experience that conservative rational psychotherapy has shown its immense value already along with other therapeutic means in controlling certain obstinate cases of joint disease.

3. A standard conception of arthritis may lead to speculations as to the nature of rheumatoid (atrophic) arthritis through consideration of the clinical manifestations of the disease, and by comparisons with gout.

It is known that faulty elimination of urates is associated in some was with gout, and that urates crystallize out of the blood at times in the various tissues. Also it is understood that there are possibilities for accumulations of urates in circulation through faulty actions of kidneys; or excessive formations by the body tissues that have imperfect nervous control or from other defects within themselves; or through abnormally large ingestions of foods especially rich in urates; or through combinations of these causes.

Could a similar relationship exist between creatinin metabolism and rheumatoid arthritis? Creatinin is a product of normal metabolism and occurs in proportions and amounts that are not widely different from those shown by urates. It is derived particularly from muscles, and muscles atrophy particularly rapidly in acute attacks of rheumatoid arthritis. Is it possible that this soluble substance that does not crystallize readily and thus show conveniently its relationships, can affect joint and other tissues in characteristic subtle ways as urates analogously react on different tissues in gout? It may be possible that an acute attack of rheumatoid arthritis is precipitated by a sudden temporary shutting down of excreting powers of kidneys for creatinin; or a sudden increase of circulating creatinin from rapidly wasting muscles which in turn may have temporary defective nervous control or other internal defects; or an unusual intake of creatinin in the food finally may reach the blood stream in unusual quantities after passing the protective regulating apparatus of the alimentary tract; or there may be combinations of these causes which produce sufficiently large proportions of circulating creatinin to influence harmfully the joints along with skin and other tissues. It should be remembered that harmful proportions of circulating substances in one instance are not harmful necessarily in another case, because in the first instance joint resistances may be low

from congenitally low resistances with subsequent poor balance of equilibrium of combined external forces acting on them; while in the second case there may have been high initial resistances of the joints at birth with subsequent very favorable balance of combined external forces acting on them. The latter consequently will withstand larger quantities of slightly irritating circulating substances for longer periods of time without development of abnormal symptoms than the first mentioned joints are able to do.

Authoritative answers can be made to the questions suggested only through painstaking, prolonged chemical experiments, and it is doubtful whether chemistry even can prove or disprove convincingly the ideas that have been suggested, because, as with gout, there are too many variable factors concerned to permit absolute confirmations or rejections of the stated ideas. Perhaps the latter are valuable as a tentative theory and may be more desirable than no rational conceptions at all.

4. A standard conception of arthritis increases the user's efficiency in treating patients because it permits him to realize that favorable balances may be restored often in more than one way.

An unbalanced view demands immediate removal of a single carious tooth or a slightly defective tonsil because of presumable slight absorptions of toxins into circulation from such sources, and it is argued that a very trivial factor may be the last straw to upset the delicate normal balance of joint functions. A more deliberate opinion will be based on more factors involved in the case. It may happen that a marked gastro-enteric defect is much more important, and its correction may lead to such general improvement of health that not only are joint troubles relieved but mouth infections may subside also without further purposeful care.

The presence of unusual crepitus in a knee joint may decide an enthusiastic surgeon that the joint lining should be inspected and trimmed if necessary immediately, and this is done often successfully. A more deliberate opinion will consider as well the possibility of relief through less mechanical use of the knee and through improvement of the patient's general condition. Differences of opinions undoubtedly always exist regarding appropriate times for operations, and patients are likely to

demand explanations of the grounds for operations more carefully, whether patients' welfare is uppermost in the physician's mind when he gives his views, or whether the opportunity to do successful yet unnecessary operations determines his decisions.

Specific reactions of joint tissues possibly may be recalled by a standard conception of arthritis, and the fact recognized that a joint may be resistant in certain directions and non-resistant in other directions. For example, cases of rheumatoid arthritis that are non-resistant presumably to metabolic substances may improve greatly under infectious conditions that modify metabolism in marked degree. Such a patient may have his chronic arthritis improved in surprising manner by an attack of pneumonia or a severe erysipelas infection although these infections may be causes of infectious joint troubles in other patients.

One extremely important fact brought forcibly to view by the graphic picture of joint balances is that all therapeutic measures may be found both on favorable and unfavorable sides of the balance at one time or another, most beneficial methods becoming harmful under certain circumstances.

This happens if their actions are continued too long or with too large doses, or if they are carried out too thoroughly in case of surgical measures. Very often it is difficult to know precisely when to stop administrations to gain maximum benefits, and consequently proper end points are passed not infrequently.

The topic of when to give, and when not to give, and particular treatment is the matter that needs continuous careful discussion even more than discussions of new principles and new methods. For these small details that one occasionally hears referred to scornfully and compared to trivial details of household cookery nevertheless control successes and failures in treatment to very important degrees.

This difficulty can be minimized to a certain extent through keeping more clearly in mind the fact that most tissues react to many therapeutic influences with primary increases and secondary later diminutions in their normal functions. Yet these well known details are so difficult to handle that search continues to be made for new remedies of more miraculous natures that do not possess such disadvantages. It is safe to predict that none ever will be found until living tissues change their natures. Each

new discovery that is applied rather indiscriminately at first always until its limitations are discovered, will take its place finally in the group of other useful agents with its proper restrictions, if it is not discarded entirely.

While search for marvellous remedies goes on there is a quiet forgetting of established physiological principles that were learned in perfunctory manner in medical school courses, and it is true that many of us should review at more frequent intervals the elementary principles of physiology. There can never be any single specific remedy or cure-all that can ever correct perfectly the effects of numerous widely differing kinds of influences, with their varying strengths of action, as the latter combine to act on the joints.

Relief of joint diseases is easy when some important infective focus in whatever location it happens to be situated can be easily and completely eradicated. Relief is easy when marked local defects in joints can be removed by surgical means, or when mechanical supports satisfactorily combat important temporary mechanical causes. It is easy when derangements of balanced rela-

tionships between organs can be corrected by simple diet regulations and regulations of eliminative functions, or when rest, or drug-treatment for short periods, or physical therapeutic measures soon restore a normal balance of relationships among the organs of the body.

Relief of joint conditions is difficult when there are deeply seated infective foci that cannot be removed; when any important organ, the kidney for example, exhibits progressive disease of marked degree; when balanced relationships between organs are easily deranged and difficultly corrected as when unstable balance of the nervous system causes recurrent upsets of general metabolic nature; and when joint structures are involved in intractable disease like neoplasms, syphilis, or tuberculosis.

On the whole a standard conception of the balanced nature of joint diseases assists any physician to adhere more closely to the principles and ideas which are best in the long run for patients, for the welfare of the medical profession and for himself; and occasionally it makes possible successful results in seemingly impossible cases.

FAVORABLE AND UNFAVORABLE INFLUENCES ACTING DIRECTLY AND INDIRECTLY ON JOINTS.*

<i>Favorable.</i>	<i>Unfavorable.</i>
Mechanical	Mechanical
1. Favorable amounts of normal use of joints, and of weight bearing. 2. Favorable anatomical development of joints for functional activity. 3. Surgical removal of harmful anatomic peculiarities, and surgical correction of harmful deformities.	1. Unfavorable amounts of normal use of joints, and of weight bearing. 2. Unfavorable anatomical developments and deformities. 3. Unsuccessful surgical treatments that increase local anatomical defects or deformities.
External.	External.
4. Favorable degrees of heat and cold and favorable climatic changes. 5. Favorable influences of treatments locally with radiant heat, baking, electricity and massage. 6. Beneficial influences of mechanical supports.	4. Unfavorable exposure to heat or cold or to unfavorable climatic changes. 5. Unfavorable influences of overtreatment locally with radiant heat, baking, electricity and massage. 6. Unfavorable influences of too much or too prolonged mechanical support. 7. Unfavorable influences of mechanical traumata, single or repeated.
Nervous.	Nervous.
7. Favorable trophic nervous control of joints (?) 8. Favorable indirect influences on joints of favorable nervous control of the various organs of the body with resultant changes in the blood stream.	8. Unfavorable nervous control of joints by trophic nerves (?) 9. Unfavorable indirect influences on joints of faulty action of the nervous system on the various organs of the body and with resultant unfavorable changes in the blood stream.

* This list could be made more complete and more accurate, but for the purpose for which it is intended, namely, to indicate the great complexity of the balance between favorable and unfavorable influences acting at times on the joints.

it is sufficiently so, in spite of some doubtful items, to serve the purpose of the balance between favorable and unfavorable influences.

Vascular.

(as affected by kidney functions)

9. Favorable function of renal epithelium in removing from the blood urates, creatinin, bacterial toxins, products of bacterial metabolism, and all waste products that may influence joints harmfully.
10. Favorable changes of renal functions resulting from improvement in nervous control of kidneys (!)
11. Favorable changes of renal functions resulting from favorable cardiac changes.
12. Favorable changes of renal functions resulting from favorable changes of digestive functions.
13. Favorable changes of renal functions resulting from favorable internal glandular changes.
14. Favorable changes of renal functions resulting from favorable muscular changes and activities.
15. Favorable changes of renal functions resulting from improved functions of the skin.
16. Favorable changes of renal functions resulting from favorable changes of quantities of water and salts taken.
17. Favorable changes of renal functions resulting from drugs favorably influencing kidneys.
18. Favorable changes of renal functions following surgical operations on kidneys.
19. Favorable changes of renal functions following fitting of mechanical abdominal belts and kidney pads.

Vascular.

(as affected by digestive functions)

20. Favorable function of gastro-enteric mucosa, gastro-enteric musculature, pancreas and liver.
21. Favorable changes in digestive functions resulting from improved nervous control.
22. Favorable changes in digestive functions resulting from improved cardiac functions and favorable blood pressure changes.
23. Favorable changes in digestive functions resulting from improved renal functions.
24. Favorable changes in digestive functions following recovery from serious pulmonary diseases.
25. Favorable changes in digestive functions resulting from operations on digestive organs.
26. Favorable changes in digestive functions following use of abdominal mechanical supports.
27. Favorable changes in digestive functions resulting from movements of the body and muscular activity.
28. Favorable changes in digestive functions produced by tonic drugs that affect favorably the gastroenteric mucosa, peristalsis, or liver or pancreas.

Vascular.

(as affected by kidney functions)

10. Unfavorable function of renal epithelium in removing from the blood urates, creatinin, bacterial toxins, products of bacterial metabolism, and all waste products that may influence joints harmfully.
11. Unfavorable changes of renal functions resulting from unfavorable changes in nervous control of kidneys (!)
12. Unfavorable changes of renal functions resulting from unfavorable cardiac changes, and unfavorable changes of blood pressure.
13. Unfavorable changes of renal functions resulting from unfavorable changes of digestive functions with resultant increased work for kidneys.
14. Unfavorable changes of renal functions resulting from unfavorable internal glandular changes.
15. Unfavorable changes in renal functions following serious skin lesions.
16. Unfavorable changes in renal functions resulting from unfavorable changes in quantities of water and salts taken.
17. Unfavorable changes in renal functions resulting from overtreatment with drugs affecting the kidneys.
18. Unfavorable changes in renal functions following unsatisfactory surgical operations on kidneys.
19. Unfavorable changes in renal epithelium resulting from bacterial infections of the kidneys, circulating metallic poisons, alcohol, local kidney disease, renal calculi, neoplasms, traumata.

Vascular.

(as affected by digestive functions)

20. Unfavorable function of gastro-enteric mucosa, gastro-enteric musculature, pancreas and liver.
21. Unfavorable changes in digestive functions resulting from defects in nervous control of digestive organs.
22. Unfavorable changes in digestive functions resulting from defects of heart or blood-vessels.
23. Unfavorable changes in digestive functions resulting from disturbances of normal renal functions.
24. Unfavorable changes in digestive functions due to developing pulmonary troubles.
25. Unfavorable changes in digestive functions resulting from unsuccessful operations on digestive organs.
26. Unfavorable changes in digestive functions due to visceral ptosis.
27. Unfavorable changes in digestive functions from excessive use of drugs affecting stomach, intestines, liver or pancreas.
- 28.* Unfavorable changes of digestive functions due to faulty diets.

29. Favorable changes in digestive functions due to favorable diets.
30. Favorable changes in digestive functions in response to gastric or rectal lavage.

Vascular.

(as affected by cardiac functions)

31. Favorable strength of cardiac muscle and cardiac development.
32. Favorable changes in heart action resulting from proper exercise.
33. Favorable changes in heart action caused by favorable changes in its nervous control.
34. Favorable changes in heart action following relief of kidney defects.
35. Favorable changes in heart action resulting from relief of gastric distention and chronic digestive disturbances.
36. Favorable changes in heart action due to recovery from pulmonary troubles.
37. Favorable changes in heart action resulting from favorable changes in internal secretions.
38. Favorable changes in heart action produced by drugs affecting the heart favorably.
39. Favorable changes in heart action produced by hydrotherapy.

Vascular.

(as affected by pulmonary functions)

40. Favorable function of alveolar cells of the lungs.
41. Favorable changes in pulmonary functions modified by increased abundance of fresh air.
42. Favorable changes in pulmonary functions from proper exercise.
43. Favorable changes in pulmonary functions resulting from improved heart action.
44. Favorable changes in pulmonary functions induced by improvements in nervous control of respiration.
45. Favorable changes in pulmonary functions produced by subsidence of serious renal disturbances.
46. Favorable changes in pulmonary functions produced by pulmonary drugs.
47. Favorable changes in pulmonary functions resulting from physical therapy.
48. Favorable changes in pulmonary functions following surgical operations on pleura or lungs.

29. Unfavorable changes in digestive functions resulting from lack of bodily movements and muscular exercise.
30. Unfavorable changes in digestive functions due to local diseases of various sorts, inflammations, new growths, bacterial putrefactions of intestinal contents.

Vascular.

(as affected by cardiac functions)

31. Unfavorable strength of cardiac muscle and poor cardiac development.
32. Unfavorable changes in heart action resulting from lack of proper exercise.
33. Unfavorable changes in heart action caused by unstable nervous control of the heart.
34. Unfavorable changes in heart action resulting from defective kidneys.
35. Unfavorable changes in heart action caused by gastric disturbances.
36. Unfavorable changes in heart action produced by developing pulmonary troubles.
37. Unfavorable changes in heart action resulting from excessive internal secretions, notably thyroid secretion.
38. Unfavorable changes in heart action resulting from overdosage with heart stimulants.
39. Unfavorable changes in heart action from excessive stimulation with hydrotherapy.
40. Unfavorable changes in heart action from arteriosclerosis and increased peripheral resistance in the system of blood vessels.
41. Unfavorable changes in heart action due to pericarditis and endocarditis.
42. Unfavorable changes in heart action due to improper administrations of vaccines and sera, or to tobacco, coffee, etc.

Vascular.

(as affected by pulmonary functions)

43. Unfavorable function of alveolar cells in the lungs.
44. Unfavorable changes in pulmonary functions due to deficiencies of fresh air.
45. Unfavorable changes in pulmonary functions caused by lack of exercise.
46. Unfavorable changes in pulmonary functions due to cardiac disease or defects.
47. Unfavorable changes in pulmonary functions from faulty nervous control of respiration.
48. Unfavorable changes in pulmonary functions due to development of serious renal disease and its effect on the respiratory nervous center.
49. Unfavorable changes in pulmonary functions from excessive use of drugs.
50. Unfavorable changes in pulmonary functions resulting from unsuccessful surgical operations on chest and lungs.
51. Unfavorable changes in pulmonary functions due to faulty posture.

49. Favorable changes in pulmonary functions due to corrections of faulty postures.

Vascular.

(as affected by functions of organs of internal secretion, bone marrow, lymph glands and formed elements of blood)

50. Favorable functioning of these various tissues.
51. Favorable changes in functions of these various tissues following favorable changes in action of other organs and in nervous control if the latter exists.
52. Favorable changes in functions of these various tissues after favorable administrations of drugs or extracts of glands of internal secretion, notably improvement in haemoglobin after administration of iron.
53. Favorable changes in function after surgical removal of portions of thyroid gland, or removal of infected lymph nodes and tonsils.

Vascular.

(as affected by dermal functions)

54. Favorable function of the skin.
55. Favorable changes of dermal functions resulting from improvements of functions of various other organs, notably the digestive tract.
56. Favorable changes of dermal functions due to vaso-motor changes in blood vessels of the skin, or due to massage, hydrotherapy, or local applications.

Vascular.

(as affected by muscular function)

57. Favorable muscular function and development.
58. Favorable changes in muscular functions due to favorable changes in nervous control, exercise, or improved functions in kidneys, digestive tract, and other organs.
59. Favorable changes from mechanical protection in weakened or irritated conditions.
60. Favorable changes in functions due to administrations of drugs that relieve muscle stiffness, or due to massage or other forms of physical therapy.
61. Favorable changes from surgical treatment following injuries.

Vascular.

(as affected by bacteria or their toxins, metallic poisons, therapeutic vaccines and sera)

62. Favorable influence of certain lactic acid bacteria in inhibiting growth of harmful intestinal putrefactive bacteria.
63. Favorable influence of various rheumatic vaccines and sera.
64. Beneficial effects of surgical removal of various bacterial foci that are contributing their harmful products to the blood.

52. Unfavorable changes due to development of pulmonary and pleural disease, and traumata of lungs, ribs and pleura.

Vascular.

(as affected by functions of organs of internal secretion, bone, marrow, lymph glands and formed elements of blood)

53. Unfavorable functioning of these various tissues.
54. Unfavorable changes in functions of these various tissues following unfavorable changes of function of other organs and of nervous control if the latter exists.
55. Unfavorable changes in functions of these various tissues after excessive administration of drugs or glandular extracts.
56. Unfavorable changes in functions after too much surgery on the thyroid gland.
57. Unfavorable changes in functions of these various tissues resulting from development of serious local pathological states in any one or more of them.

Vascular.

(as affected by dermal functions)

58. Unfavorable function of the skin and its glands.
59. Unfavorable changes of dermal functions resulting from digestive troubles or disturbed functions of other organs.
60. Unfavorable changes in skin due to harmful vasomotor changes or trophic nerve disturbances.
61. Unfavorable functions due to burns or serious skin diseases.

Vascular.

(as affected by muscular function)

62. Unfavorable muscular strength and development.
63. Unfavorable changes of muscular function due to defects in nervous control.
64. Unfavorable changes of muscular function following improper exercise.
65. Unfavorable changes of muscular function from immobilization by mechanical means.
66. Unfavorable changes of muscular function resulting from defective functions of kidneys, digestive tract, and other organs.
67. Unfavorable changes of muscular function due to local muscle disease or traumata.

Vascular.

(as affected by bacteria or their toxins, metallic poisons, therapeutic vaccines and sera)

68. Unfavorable influences of bacterial foci in tonsils, teeth, naso-pharynx, gastro-enteric tract, genito-urinary tract, or other organs that contribute harmful bacteria or their products to circulating blood.
69. Harmful influences of therapeutic vaccines and sera from overdosage.
70. Unfavorable influence of lead in circulation in chronic lead poisoning.

THE INFLUENCE OF THE MEDICAL PROFESSION ON MEDICAL LEGISLATION AND THE PUBLIC WELFARE

BY JOHN B. HAWES, 2ND, M.D., BOSTON.

IN a recent editorial in the BOSTON MEDICAL AND SURGICAL JOURNAL the following statement was made: "The report of the Joint Committee in Legislation published in last month's issue of the JOURNAL is discouraging to those who hoped for progressive action on the part of the Legislature this year. It is discouraging to realize how little influence, except in a negative way, the medical profession exerts through the Joint Committee. While no backward step has been taken, the record is one of complete failure to gain any step forward."

Such a statement as this, which is known to be the truth as far as Massachusetts is concerned, might with few exceptions be applied with equal force to the condition of affairs in almost every other state of this country. From 1907 to 1920, as Secretary of a State Commission which was in charge of the Massachusetts sanatoria for consumptives and of the tuberculosis campaign in this State in general, it was part of my duties to attend hearings not only in regard to tuberculosis and matters directly related to my board of trustees but also those concerning health matters in general. What has been accomplished at such hearings during these years by the various committees on legislation representing the Massachusetts Medical Society bears a striking resemblance to what has been accomplished this year, as described in the editorial quoted above. Anti-vaccination bills have been successfully opposed and killed each year, though with difficulty; many good measures have been supported and occasionally their passage secured; bad bills have been opposed and occasionally their enactment prevented. Yet, as a whole, it is undoubtedly true that the influence of the medical profession in this state as represented by the Massachusetts Medical Society on its legislative body, the Senate and House of Representatives, is conspicuous by its absence.

Other organizations representing various groups of men, industries, trades and occupations are not without influence at the State House. It is an undoubted fact that a union such as that of the bricklayers or that of the amalgamated cigar makers can exert a powerful influence on those who represent them; any

large public service corporation seems to be able to make its wants known quite definitely and clearly on Beacon Hill. In the *Boston Evening Transcript* of May 22, 1920, interesting comment is made on the influence of the now powerful Farmers' party in Ontario, Canada. On two recent occasions when the representatives of the farmers in the Legislature seemed about to take certain action that did not meet with the approval of those they represented "the executives of the Farmers' Organization issued a broadside to Farmers' Clubs throughout the country with the result that the members in the House were deluged with such a flood of telegrams and letters that they immediately reconsidered their former decision."

I do not for a moment criticize these various committees and the men serving on them who have represented the Massachusetts Medical Society and other medical organizations of the State. These men have given freely of their time and energy and have worked long and faithfully to bring about what they knew and what we all knew was for the good of the community, and yet the fact remains that they have failed in the vast majority of instances to produce results. Why have they failed? The answer to this question is one that vitally concerns every physician in the country. Why does a group of men, each of whom has spent the best years of his life in training for the noblest and best of all professions, have so little influence in the community? Surely our aims and ideals are of the best. This no one can deny. Then it must be our means and methods that are at fault. No other conclusion is possible.

With this idea firmly fixed in my mind, I wrote a personal letter to the Secretary of every State Medical Society in the country, describing what I believed to be a most unsatisfactory state of affairs in Massachusetts and asking for the details as to how each respective medical society attempted to solve this problem and the results obtained. My answers were interesting in the extreme. A summary and brief synopsis of these letters is here given.

There were 32 answers to the 48 letters that I sent out. In 17 instances, over 50%, the reply was to the effect that the medical society had a committee on State and National Legislation or its equivalent which accomplished little or nothing. Excerpts from some of these letters

show the general trend of answers and likewise a marked similarity:

Arizona: "This association has a legislative committee which takes whatever action may seem proper. Its real value is distinctly limited."

California: "As far as I can make out, the California State Medical Society has nothing to do with legislative matters."

Connecticut: "There is a legislative committee which appears in opposition to anti-vaccination bills. It rarely accomplishes anything. They have no satisfactory system."

Delaware: "There is a committee on public policy and legislation. It has no influence on legislation."

Iowa: "There is a legislative committee of five members. The amount accomplished is largely due to the personal efforts of the chairman of this committee. There is no organization in the Society."

Kansas: "The influence of the State Society with the State Legislature is not of great importance. There is a committee on legislation which accomplishes little or nothing."

Maine: "There is a legislative committee which appears at hearings and which has little or no influence. The greatest help comes from physicians who are members of the legislature. The medical profession at large has little or no influence."

Minnesota: "The Association has a legislative committee which is somewhat inactive."

Nebraska: "There is a Committee on Public Policy and Legislation which accomplishes nothing." The writer does not believe that anything can be accomplished by legislative committees or by direct influence.

New Hampshire: "The Society has a legislative committee which appears before the House and Senate committees on various bills." So far, the writer believes this committee has been a failure.

New Jersey: "There is a legislative committee which has no influence. The only influence that the medical profession has is through its members who are the family physicians of the legislators."

New Mexico: "There is a legislative committee which accomplishes nothing."

Porto Rico: "The Medical Society of Porto Rico has a legislative committee, but so far it

has not accomplished anything favorable for the medical profession."

Wisconsin: "There is a legislative committee which does nothing. They have at times maintained a paid lobbyist which accomplished nothing. A committee before the Legislature seems invariably to arouse suspicion."

North Dakota: "The legislative committee plan is a failure."

South Carolina: "Legislative committees amount to little or nothing."

West Virginia: "There is a Committee on Public Policy and Legislation," which in the writer's opinion, has been a failure. "Things are put off until there is dire need of action, and then it is too late to do anything."

That the situation is not quite so bad as the preceding replies would indicate is shown by the following extracts from my replies from other states and comments on them.

Idaho: My correspondent believes that the only successful plan is for the Society to put a competent paid man on the job with instructions to get results. No details as to how he is to do this are given.

Illinois: The principles under which the Illinois Society acts are: (1) A good, live man at the head of the legislative committee, who lives at the Capitol. (2) Organization of medical men throughout the State, so that they can see their representatives in the Legislature while they are at home on week ends. (3) Information given to the medical men in each county throughout the State pertaining to bills that are introduced. (4) Sufficient funds: In Illinois each member of the State Society is assessed fifty cents each for this purpose. (5) The emphasizing of the fact that there is no personal or selfish purpose in the arguments brought forward; that it is simply a question of keeping up the standard of health and medical legislation as it should be. Further details are given.

Louisiana: There is a Committee on Public Policy and Legislation composed of the most influential physicians in the state. All matters are referred to this committee. The members visit the Capitol, if necessary, and use whatever influence they can either for or against legislative matters. Its work seems to be fairly satisfactory.

Maryland: There is a legislative committee

appointed each year to take charge of medical legislation, but this method has not proved to be very effective. This year the plan is to organize the physicians throughout the State into committees, which will work with the candidates for election immediately after the primaries. The idea is to have the candidates informed regarding the type of legislation they need, even before their election.

Missouri: The secretary of the Association is likewise secretary of the Committee of Health and Public Instruction. He keeps informed concerning all details that touch the medical profession or public health. When necessary, he sends information concerning such bills to each of the component societies in the State Association (100 county societies out of 115 counties) giving the title and number of the bill, and what it is about. The physicians then act individually, as well as through the county societies. They get the names of the family physicians of each member of the Legislature. The leading members of the profession then get together with the leading members of the Legislature or with the Governor. Special influence is brought to bear upon the committee before a bill is given a public hearing. This, of course, requires time, numerous visits to the Capitol, frequent consultations with local physicians and friendly politicians. It is not considered wise to have a paid lobbyist. There is evidently an active and influential medical association in this State.

Montana: "The handling of legislative problems is easy if done systematically. Medical men best acquainted with important members of the Legislature talk over the desired measures and educate them on the subject." Here again no details are given. The plan sounds far simpler than it must really be.

New York: The State Medical Society has a legislative committee which for many years has been very efficient. It does not limit itself to attending hearings, but acts by personal interviews with the legislators. The New York County Medical Society also has a legislative committee, acting in unison with the State Society. For several years, the President of the State Society has taken an active hand in the legislative work. New York has adopted the principle of personal interviews and influence with the Legislature. They also ascertain who is the family or personal physician of each Legislator.

North Carolina: The committee, however, selects one doctor in each county who can be called upon to confer with, write or wire his representative or senator in the General Assembly. There are 100 counties, and the Association has been able to turn in a telegram to the senators and representatives in the General Assembly from more than 75 per cent. of these counties on a given morning. This has been of distinct influence. The plan, which corresponds closely to that referred to above of the Farmers' Association in Ontario, has many advantages.

Ohio: A wide-awake State Medical Society, an enterprising medical journal, coöperation of the various welfare and health agencies, have accomplished a great deal in this State. The various members of the Society at home in conference with their Legislators have accomplished much. There is a representative from each county medical society, and these representatives get together and discuss pending legislation. The results are good.

Pennsylvania: The President of the Society has a desk in the Department of Public Health at the State House. He is in harmony with this department. He is closely affiliated with the medical members of the House and Senate, and attends committee meetings, not as a lobbyist, but simply as an advisor. He lets it be understood that he represents 11,500 physicians in Pennsylvania. The results depend largely upon the personality of the president of the society. Pennsylvania is to be congratulated in having as the president of its State Medical Society a man who can devote so much time and who is able to exert so much influence as is apparently the case here.

South Carolina: The President of the State Medical Society calls a meeting of one or more influential physicians from each county in the State during the early days of the Legislature. These men go immediately to their representatives and tell them what legislation is desired and what is desirable. There is no expense attached to this plan.

Tennessee: When the Association wishes the enactment of any law in which they are interested, they appoint a committee which will give necessary time and energy to complete the matter. My correspondent is opposed to the medical profession interfering in legislation, as the responsibility does not belong to them. The responsibility should be put on the legislators.

The medical profession should see to it that the legislators are informed regarding what is good or bad legislation, and then leave the rest to the law-makers. Here, again, is outlined a plan that sounds simple enough but is not easy to carry out.

Texas: There is a legislative committee, consisting of the secretary, president, and three others. The secretary of the Association is secretary of this committee or council. He keeps the Council informed, and active in regard to legislative matters, and on him depends the success of this plan. The Society employs a man who remains constantly with the Legislature and keeps the secretary thoroughly informed as to the legislative situation, as it pertains to public health and medical profession. Telegrams, letters, and other methods of appeal are used, all having been carefully prepared in advance. Educational propaganda are carefully conducted with the various county societies and their legislative representatives. It is necessary to impress legislators with the fact that the effort being made is organized, and that a record is kept of the proceedings. Those who expect to remain in politics have a wonderful respect for organization.

Washington: There is a legislative committee, but it has been hampered in its work by the lack of a constructive program. They have come to the following conclusions:

1. The best time to interview a legislator is prior to his election.
2. A constructive program must be adopted and must be patiently followed from year to year.
3. This program must be for the best interests of the public.
4. The legislative committee should have complete freedom of action and individual action should be discouraged.

West Virginia: As mentioned above, there is a Committee on Public Policy and Legislation which in my correspondent's opinion has been a failure. Things are put off until there is dire need of action, and then it is too late to do anything. A legislative committee should go to work on the legislators before their election, if possible, by personal interviews. It is important to know the family physician of every legislator.

Here then is the evidence which, as every one will admit, goes to show clearly that the medi-

cal profession in this country, as far as the individual states are concerned, and indeed, in my opinion, as far as the country as a whole is concerned, is not the power for good that it should be. Can anything be done to improve this state of affairs? This question I would strongly answer in the affirmative and would make the following suggestions:

1. Education of the public as to its needs in health matters and legislation therefor. This should be done by articles of local interest whenever possible, printed in *newspaper English* in the daily and weekly lay press. Providing such articles contain news and are of local interest every newspaper will be glad to print them and will recognize their importance and value.

2. Education of the legislators. This is a difficult task. Find out the family physician of every legislator and instruct such physicians as to what is needed and obtain their coöperation and promise to interview the legislators in question personally in regard to important subjects. Find out the views of each legislator prior to his election and make such views, favorable or unfavorable, known to the physicians and the electors of his district.

3. Education of the medical profession. In the medical press and by personal letters and at medical meetings impress upon every doctor that it is part of his duties and part of his responsibility to the public to educate his patients and the families under his care concerning public health matters and preventive medicine.

4. Every State Medical Society might well employ a capable man at full or part time to assist in the details necessary to carry on the above campaign. He should also prepare the means and methods so that at short notice a given legislator, or group of legislators, can be deluged with letters, telegrams, and personal interviews urging his action for or against certain measures. The average legislator will not be greatly influenced by a legislative committee representing what is to him a somewhat vague and intangible thing such as a state medical society, particularly when he hears from such a committee at a time when his mind is usually already made up as to which way he intends to vote. He will be influenced, however, by appeals from men, constituents of his, whom he knows personally, from his own district, and who he likewise knows have large influence among the voters of his district. Such influence will be all the greater if it is brought to bear

at any early stage when his opinion is still in the formative state.

These are, of course, merely suggestions, the details of which must depend upon local conditions. I believe, however, that by carrying them out in whole or in part the medical profession will be a greater power for public good than it now is.

TRANSFUSION IN OBSTETRICS. BLOOD MATCHING AS A ROUTINE ON PREGNANT PATIENTS.

By R. S. TITUS, M.D., BOSTON.

THE trend in obstetrics, as in all other branches of medicine and surgery, is toward prevention. We examine routinely thousands of specimens of urine for the occasional one containing albumen; we take many routine blood pressures, watching for the important rise; we do careful physical examination to rule out the infrequent patient unfit to have babies; we examine many pelves to find the unusual one which contains some pelvic obstruction to safe delivery; we do many Wassermanns for the one that proves positive—all this to find the occasional patient who is in one sense or another obstetrically abnormal. That very few abnormal patients are so found is no argument against trying to find them. All this routine is essential if obstetrical disasters are to be avoided. The ideal of obstetrics is not reached until we have done all that can be done to safeguard our patients against any and all disasters.

The accidental bleeding cases are the ones which by no examination can we anticipate. Detached placentas will occur, placenta prae-vias give warning only when they bleed, post-partum hemorrhages will come when least expected. For all loss of blood there is nothing like replacing blood, and severe shock is best treated by blood transfusion. Time spent in getting ready for safe transfusion on hemorrhage or shock patients is time lost if any time so spent could be saved. The technic of blood transfusion has been so perfected that it is known to be unsafe to give blood to anyone unless the blood of the donor and the blood of the recipient have been matched and found compatible. Occasional instances of incompatibility have been observed in the matching of

bloods of people in the same group. Everyone who is in group four is a potentially safe donor, but even though the person be in group four it is clinically unsafe to transfuse with that person's blood until his blood has been matched with the blood of the person to whom it is to be given; and all this takes a certain amount of time—time which may be very, very precious, and time which may be entirely saved. It is a perfectly simple matter to match the blood of the pregnant patient with her husband's or with some person's in group four, any time within the last month or six weeks of expected delivery. Matching blood means only a few minutes if one is prepared to do it, and if one has a safe donor at hand when the need of transfusion arises, much time otherwise spent in getting a donor can be saved.

For some time it has been my custom to match the bloods of my patients with the blood of their husband and with the blood of a group four person. This has been done within six or eight weeks of expected delivery. Telling the patients of the very extraordinary condition that so rarely occurs to warrant this procedure meets with their full approval. Strangely enough only one of the husbands whose blood I have matched with his wife's has been compatible; on the other hand, the group four person has been compatible with the pregnant patient's blood in every instance. One hears occasionally of patients who have died because of hemorrhage, when the time spent in getting ready for the transfusion was too long. If one of these patients can be saved by the simple routine procedure of blood matching the habit is well worth while. One such disaster is enough to warrant this routine on many, many patients. Such routine, of course, is not practicable in clinics taking care of patients at home. So far as hospital practice goes, all patients arriving who have had any hemorrhage and cases in which the possibility of hemorrhage is present should be matched in order to meet the emergency if it should arise. Among men doing obstetrics and obstetrics alone any procedure which tends to lessen the dangers of delivery for their patients certainly is worthy of consideration. It is upon this basis that blood matching as a routine is advocated.

THE BOSTON Medical and Surgical Journal

Established in 1812

An independently owned Journal of Medicine and Surgery, published weekly under the direction of the Editors and an Advisory Committee, by the BOSTON MEDICAL AND SURGICAL JOURNAL SOCIETY, INC.

THURSDAY, OCTOBER 7, 1920

EDITORS

ROBERT M. GREEN, M.D., *Editor-in-Chief and Manager*

GEORGE G. SMITH, M.D., *Assistant Editor*

WALTER L. BURRAGE, M.D., *For The Massachusetts Medical Society*

ADVISORY BOARD

EDWARD C. STREETTER, M.D., *Boston, Chairman*

WALTER F. BOWERS, M.D., *Clinton*

WALTER B. CARSON, M.D., *Cambridge*

HARVEY CUSHING, M.D., *Brookline*

HOMER GAGE, M.D., *Worcester*

REID HUNT, M.D., *Boston*

LYMAN A. JONES, M.D., *Swampscott*

ROGER L. LEE, M.D., *Cambridge*

ROBERT B. OSGOOD, M.D., *Boston*

MILTON J. ROSENAU, M.D., *Brookline*

ALFRED WORCESTER, M.D., *Waltham*

SUBSCRIPTION TERMS: \$5.00 per year, in advance, postage paid for the United States, \$6.36 per year for all foreign countries belonging to the Postal Union.

An editor will be in the editorial office daily, except Sunday, from twelve to one p.m.

Papers for publication, and all other communications for the Editorial Department, should be addressed to the Editor, 126 Massachusetts Ave., Boston 17. Notices and other material for the editorial pages must be received not later than noon on the Saturday preceding the date of publication. Orders for reprints must be returned in writing to the printer with the galley proof of papers. The Journal will furnish free to the author, upon his written request, one hundred eight-page reprints without covers, or the equivalent in pages in the case of articles of greater length.

The Journal does not hold itself responsible for any opinions or sentiments advanced by any contributor in any article published in its columns.

All letters containing business communications, or referring to the publication, subscription or advertising department of the Journal should be addressed to

BOSTON MEDICAL AND SURGICAL JOURNAL

126 Massachusetts Ave., Cor. Boylston St., Boston 17, Massachusetts

THE TRAINING OF RELIEF NURSES.

THE Trustees of the State Infirmary at Tewksbury are to institute, after October 1, a one-year course for the training of "relief nurses." They have recognized the great need of the community, as well as of the hospitals, for the type of nurse who will, in a measure, take the place of the "experienced nurse" known to the community twenty-five years ago, but now, as a class, nearly extinct. In the course they offer, the age limits, by preference between 18 and 45; the education, that of the equivalent to the standard grammar school education; opens, to what should be a goodly number of women, an opportunity to secure such an amount of training as will enable them to give valuable service in the communities in which they reside.

The nursing situation throughout the state is extremely serious. The largest amount of suffering falls upon the middle class and up-country districts, since the very poor are

provided for in the hospitals and the rich may be able to obtain nurses. The middle class, not proper subjects for pauperization and not desirous of receiving charity, are unable to pay the increased rates in the hospitals where the poor receive services free, and would be unable to compete with the rich in increased prices for trained service. The trustees in the Tewksbury experiment will depend largely upon the co-operation of the medical profession in the effort. If every physician who reads this JOURNAL will recommend one or more women suitable for this work the experiment will be a success and other institutions may follow suit. The trustees before deciding upon this course talked the matter over with various associations of graduate nurses, most of whom endorsed the measure with the understanding that it would be made very clear that graduates from the one-year course were not full-trained nurses.

It may be advisable later to define what schools will be allowed by the Commonwealth to give courses for which certificates are to be granted, but it is to be hoped that the certificate from a school, recognized and proven as proper to give instruction, will be accepted for registration if it is ever deemed wise to make registration the necessary preliminary to practice.

It is the greatest desire of the trustees to supply to the community by this project not highly trained "almost physicians," nor nurses trained as in their regular course to be capable of the finest operating-room technique nor even the care of cases requiring the largest experience and most trained judgment, but rather to help to supply to the hospitals those who may relieve the more fully trained nurse from many of the minor and mechanical duties of her work and also to bring to the community those who may aid the trained nurse where two nurses may be required, or, in the event of a chronic long-standing or not extremely critical case, help supply those who have had sufficient training to be helpful and who have taken up the work because of their love of nursing.

INFANT AND CHILD WELFARE WORK IN BOSTON.

THE work carried on by the Baby Hygiene Association in Boston demonstrates the value of

organized infant welfare supervision in reducing the mortality rate among infants and children of pre-school age. From one hundred and thirty-three deaths per thousand infants in Boston in 1910, the mortality rate has dropped to ninety-six per thousand at the present time; this reduction may be attributed in considerable part to the efforts of the clinics maintained by the Baby Hygiene Association. The Association was established in Boston in 1906, when, in spite of the fact that the milk supply was good and there were six hospitals ministering to the welfare of babies, the infant death rate was high because of the ignorance displayed by mothers in the feeding of their babies. A physician was engaged therefore to attend each health station and advise the mothers in regard to proper feeding. The work has now been extended to include the supervision of children from the time of birth until the school age is reached and the school physician assumes the responsibility. Formerly the custom has been to leave the children without any medical supervision as soon as they were old enough for adult diet. The lack of any organized effort to keep these children of pre-school age well resulted in deplorable negligence and ignorance in the maintenance of healthy conditions among the younger children. Since 1917, six clinics have been opened in Boston for the benefit of this group, with the gratifying result that they now have a registration of over nine hundred children, who present a striking contrast to the formerly uncared for group. The work of the clinics for babies is promoted by the appreciation expressed by the mothers to each other; similarly, the work of the clinics for older children is helped by the interest manifested by the children themselves.

A PROFESSIONAL PROTEST.

IN its issue for September (page 53) *Our Dumb Animals* has seen fit to republish an illustration from *Life* representing the well known views of that periodical with regard to the medical profession. While these views may be tolerable and even amusing in such a publication as *Life*, it seems hardly excusable that a magazine published by a society which has always professed and practised courtesy and high regard towards physicians should go out of its way to express so discourteous and unjust an attitude towards the profession.

After all, it probably matters little what anyone says or writes in detraction from medical science, since truth is great and is bound to prevail. Nevertheless, the publication of such witticisms at the expense of the medical profession may serve to mislead for a time the unthinking, retard and make difficult the progress and diffusion of medical knowledge advantageous to the community, and ultimately react to the disfavor of those who perpetrate them.

MEDICAL NOTES.

APPOINTMENT OF DR. A. GOSSET.—Announcement has been made of the appointment of Dr. A. Gosset, professor of external pathology of the Paris medical faculty, to the chair of clinical surgery, to succeed Professor Quénu.

BUBONIC PLAGUE IN GALVESTON.—On September 9 the ninth death and twelfth case of bubonic plague was reported from Galveston, Texas.

THE WILSON LABORATORIES.—The name of the Hollister-Wilson Laboratories, which have been directed by the same policies and standards as those maintained by Wilson and Company, has been changed to the new name, "The Wilson Laboratories."

APPOINTMENT OF DR. ARTHUR H. MORSE.—Dr. Arthur H. Morse has been appointed professor of obstetrics and gynecology in Yale University School of Medicine, to succeed Dr. Joshua M. Slemmons, who has resigned.

PROFESSORSHIP IN THE UNIVERSITY OF ALBERTA.—Dr. Ardrey W. Downs has been appointed to the chair of physiology in the University of Alberta. Dr. Downs was formerly assistant professor of physiology at McGill University.

APPOINTMENT OF DR. W. S. LAZARUS-BARLOW.—Announcement has been made of the appointment of Dr. W. S. Lazarus-Barlow to the University chair of experimental pathology at Middlesex Hospital Medical School, London.

RETURN OF LIEUT.-COL. HARRY PLOTZ, M.C.—After spending several months in investigating the spread of typhus fever in Poland, Southern Russia, and Eastern Europe, Lieutenant-Colonel Harry Plotz, M.C., has returned to this country.

THE UNIVERSITY OF TENNESSEE COLLEGE OF MEDICINE.—Plans have been made for the erection of a pathological laboratory building by the University of Tennessee College of Medicine. The building will be located near the Memphis General Hospital, and will cost approximately \$75,000. The medical school will have entire control of the teaching facilities in the hospital for a period of twenty years, and will nominate the medical, surgical, and laboratory staffs of the hospital.

APPOINTMENT OF DR. DAVID MARINE.—Announcement has been made of the appointment of Dr. David Marine, associate professor of experimental medicine in Western Reserve University, Cleveland, as director of laboratories in the Montefiore Home and Hospital, New York City.

APPOINTMENT OF DR. NICHOLAS KOPELOFF.—Dr. Nicholas Kopeloff has been appointed associate in bacteriology at the Psychiatric Institute of the New York State Hospitals. Dr. Kopeloff was formerly bacteriologist of the Louisiana Sugar Experiment.

SANITARY WORK AT PORT ARTHUR, TEXAS.—The inspection and laboratory work for the city of Port Arthur, Texas, is now under the direction of Mr. R. G. Upton, who formerly was assistant sanitary engineer of the Texas State Board of Health.

ROYAL COLLEGE OF PHYSICIANS OF LONDON APPOINTMENTS.—The following lecturers have been appointed by the Royal College of Physicians of London: Dr. F. Parkes Weber, Mitchell lecturer, 1921; Dr. G. Graham, Goulstonian lecturer, 1921; Dr. T. Lewis, Oliver Sharpey lecturer, 1921; Dr. A. Whitfield, Lumleian lecturer, 1921; Dr. R. O. Moon, FitzPatrick lecturer, 1921; and Dr. G. M. Holmes, Croonian lecturer, 1922.

SECOND INTERNATIONAL CONGRESS OF COMPARATIVE PATHOLOGY.—The Second International Congress of Comparative Pathology, with Professor Perroncito as president, will be held in Rome in the spring of 1921.

THE INTERNATIONAL SURGICAL SOCIETY.—Announcement has been made that the next international congress of the International Surgical Society will be held at London in July, 1923, under the presidency of Professor Macewen of Glasgow.

AWARD OF HONORARY FELLOWSHIPS.—The Royal College of Surgeons of England has conferred recently honorary fellowships on Professor A. Depage, of Brussels; M. Pierre Duval, of Paris; Professor John M. T. Finney, of The Johns Hopkins University, Baltimore, and Dr. Charles H. Mayo, of Rochester, Minnesota.

AWARD OF DEGREE TO DR. J. C. McWALTER.—The degree of Doctor of Literature has been conferred by the University of Ottawa on Dr. J. C. McWalter, high sheriff of Dublin, and president of the Dublin Branch of the British Medical Association.

ACADEMY OF MEDICINE OF BUENOS AIRES.—The first centenary of the Academy of Medicine of Buenos Aires will be celebrated in 1922 with a contest on medicine and allied sciences. For the three best papers presented the following prizes will be presented: the first of 5,000 pesos and a gold medal; the second, 3,000 pesos and a silver medal; and the third, 1,000 pesos and a diploma.

DONATION TO THE UNIVERSITY OF HEIDELBERG.—There is to be founded at the University of Heidelberg, to be affiliated with the Institute for Hygiene and under the direction of Professor Kessel, an institute for research on albumins. The sum of 500,000 marks has been donated to the University for the purpose.

BOSTON AND MASSACHUSETTS.

APPOINTMENT OF MR. ARTHUR G. ROTCH.—Mr. Arthur G. Rotch of Boston has been appointed manager of the New England division of the American Red Cross, to succeed Mr. James Jackson. Mr. Rotch has been assistant manager of the division since December, 1917, and was acting manager during Mr. Jackson's absence in Europe early this year. During the war he devoted the major part of his attention to the communication service work of the Red Cross. Mr. Rotch was graduated from Harvard College in the class of 1903. Before joining the Red Cross he was a landscape architect. He is a director and member of the executive committee of the Infant Hospital of Boston and vice-president of the Massachusetts Central Health Council.

AWARD OF HONORARY COMMISSION TO DR. ALFRED WORCESTER.—Dr. Alfred Worcester, of Waltham, has received recently from the King of Belgium a commission as officer of the Order

of Leopold II, for his service in Switzerland as a Red Cross officer in caring for the Belgian children.

BEQUEST TO THE ADDISON GILBERT HOSPITAL.—Among the bequests in the will of the late Sarah P. Ayer of Gloucester is a gift of four thousand dollars to the Addison Gilbert Hospital of Gloucester.

APPOINTMENT OF MISS SALLY JOHNSON.—Miss Sally Johnson, a graduate of the Massachusetts General Hospital in 1910, has been appointed head of the training school for nurses at the hospital, to succeed Miss Sara E. Parsons, who is planning to leave Boston to make a nursing survey in Missouri and Oklahoma. Miss Parsons has been superintendent of the school since 1910; during that time an affiliation with Simmons College for a five-year course leading to a B. S. degree and a diploma of nursing has been established. Miss Johnson was formerly instructor and assistant superintendent of nurses at the Peter Bent Brigham Hospital, and for the last three years has been superintendent of the training school in Albany, New York.

NEW ENGLAND NOTE.

FRENCH ORPHANAGE FUND.—The New England Branch of the French Orphanage Fund has announced that the total contributions now amount to \$617,511.43.

Obituary.

JOHN MORGAN, M.D.

THE following reminiscence, written by Mr. Philip Hale, and published recently in the *Boston Herald*, is a worthy tribute to the memory of Dr. John Morgan, and deserves republication in full:

Many in this city remember gratefully Dr. John Morgan, the oculist, who died last week. He was not only singularly skilful in his profession, he was a beneficent man who thought more of a patient's eyes than of his pocket-book. It was not easy to obtain from him a bill for the service rendered, whether it was an operation for cataract or merely a prescription for spectacles; and when a bill was finally extracted from him, it was always modest, sometimes ridiculously so. It was his habit to inquire, and not merely from curiosity, into the

profession, trade, business of a patient; if he thought the patient was in humble circumstances, the charge, if any was made, was trifling. Brusque in manner, he was the personification of kindness. In the report of his death it was stated that "one of his whims was to pick out newsboys and street urchins who had eye ailments and give them free treatment." This was not a passing "whim." During his years in Boston, he gave many professional men, who were constantly using their eyes, sometimes abusing them, free treatment, in spite of their protest.

When we first visited him, before he began his examination, he asked us if we were sure that the earth was not flat. We quoted the good old description given years ago in the school geographies. He then went on to show why the earth was flat; he talked amusingly, eloquently. Learning that we were in a newspaper office, he thundered against inaccuracy in statement and in phraseology. "You fellows write about a 'madhouse.' Now, a house cannot be mad. You should say a house for madmen." At the end of twenty minutes or half an hour, he began his examination. Meanwhile his waiting room was crowded with impatient patients.

He was so independent, so radical in his views that he disconcerted the great majority of his fellow-oculists. They regarded his moderate charges, his unbounded philanthropy as unprofessional. Harsh and unjust things were said about him by some, who, admitting his skill, thought he was a dangerous person. One of these men, however, distrusting his own ability, brought one of his relatives suffering from cataract to Dr. Morgan, and asked for secrecy. This amused Dr. Morgan hugely. When he left Boston for New York, many mourned the departure of the oculist, the skilful practitioner, the rugged, brilliant man, the staunch friend.

Miscellany.

EXAMINATION FOR ARMY MEDICAL AND DENTAL CORPS.

The Secretary of War has directed that another examination be held October 25 to 31, 1920, to determine eligibility for appointment of applicants for the Medical and Dental Corps of the Regular Army under the provisions of Section 24 of the National Defense Act amended by the Act of June 4, 1920.

Persons of the following classes who served as officers of the United States Army at some time between April 6, 1917, and June 4, 1920, are eligible to take this second examination:

a. Those who for any good reason did not apply and were not authorized to take the July examinations.

b. Those who were authorized to take the July examinations but who for some good reason were unable to appear before the examining boards.

c. Those who were authorized to take the July examinations and who appeared before the examining boards but who for some good reason of their own volition or through illness or accident failed to complete the examination.

d. Those examined during the July examination who were found disqualified on account of physical defects which have been removed by operation or which do not exist at the time of the October 25 examination.

The examination will not be competitive. The number of vacancies in the Medical Corps is sufficient to provide for any reasonable number of applicants who may qualify for appointment. The reference in War Department announcements limiting appointments to be made to 200 does not apply to the Medical Department.

As in the past examinations under the provisions of the Act referred to above, the military record and general efficiency of the officer will be determining factors for appointment. Candidates must be 58 years of age or under and meet the physical requirements fixed by the War Department.

Age in determining eligibility for grade based on that of July 1, 1920. Rank to date from July 1, 1920.

It has been the policy of the boards reviewing the reports of examination and records of applicants not to recommend the appointment of any individual in a grade higher than that which he held at any time in the service, unless the circumstances are exceptional.

Applicants for appointment will be submitted to the Adjutant General of the Army on Form No. 739, A. G. O., and for persons in the military service will be submitted through military channels. In addition to stating the arm of service desired each applicant will state the grade for which he applies. Any applications received later than October 9, 1920, cannot receive consideration. All applications will be accompanied by a letter of transmittal addressed to The Adjutant General of the Army, setting forth the circumstances which bring the application within the classes above enumerated.

The scope of the examination in the Medical Department will be as follows:

Medical Corps.

M. D. degree exempts applicant from the educational examination. Professional examination is written and comprises the following subjects: Medicine; Surgery; Sanitation; Administration.

Additional Examination. Candidates may select from the professional subjects in which they have specialized during the term of service, one or more subjects for additional examination; such examination is optional with the candidate.

Dental Corps.

Operative Dentistry; Prosthetic Dentistry; Oral Surgery; Administration.

Additional Examination. Candidates may select from the professional subjects in which they have specialized during their term of service one or more subjects for additional examination; such examination is optional with the candidate.

Applications submitted through military channels will be expedited by all concerned.

Applicants of class d, paragraph 2, should have their physical defects removed without delay as their

physical fitness for appointment will be definitely and finally determined without further delay when they appear for examination.

Blank forms for making application, Form No. 739, A. G. O., may be obtained from The Adjutant General of the Army or at any military post or station.

ANNUAL ETHER DAY INVITATION.

THE Trustees of the Massachusetts General Hospital invite all members of the medical profession to attend the Ether Day exercises at the Massachusetts General Hospital on Monday, October 18, 1920, at four o'clock. Dr. Alonzo E. Taylor of the University of Pennsylvania will give the annual Ether Day address.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The Censors of the Suffolk District Medical Society will meet for the examination of candidates at the Medical Library, 8 The Fenway, Thursday, November 4, 1920, at four o'clock.

Candidates should make personal application to the Secretary and present their medical diploma at least one week before the examination.

RICHARD H. MILLER, *Secretary*,
402 Marlborough Street, Boston.

RECENT DEATHS.

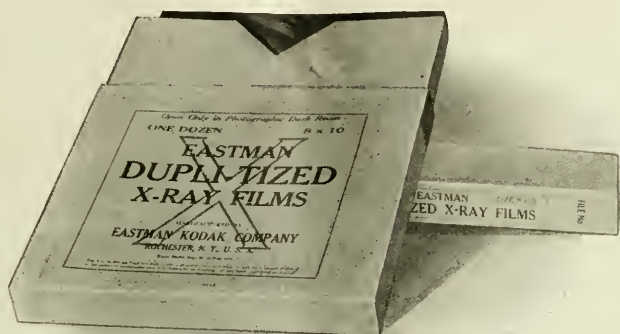
DR. FREDERICK H. GERRISH died at Portland, Maine, on September 9, at the age of sixty-five. Dr. Gerrish was a graduate of the Maine Medical School, and contributed several text-books to medical literature.

DR. JOSEPH HOMER GELINEAU of Easthampton, Mass., died Aug. 16, 1920, at Northampton, as a result of a broken neck received in an automobile accident. He was driving a car for the first time, his chauffeur being away, and came into collision with a telephone pole. He was a graduate of the Baltimore University School of Medicine in 1906, was thirty-eight years old and is survived by his widow and one son. During the great war, Dr. Gelineau was in the Army Medical Corps.

DR. CHARLES HOLT THOMAS, died at his home in Cambridge, September 4, 1920, aged 70 years. He was born at New Bedford, August 26, 1850, the son of James Brown and Araminta Taber Thomas. After attending Gleason's Academy in New Bedford, he entered the Medical School of Boston University where he was graduated in 1888, and settled in practice in Cambridge.

At one time Dr. Thomas was visiting physician at the Massachusetts Homeopathic Hospital, Associate Professor in Clinical Medicine at the Boston University Medical School, chairman of the Cambridge Board of Health from 1907 to 1909, and director of the Reliance Cooperative Bank. He was a member of the Massachusetts Medical Society, Boston Homeopathic Medical Society and Massachusetts Homeopathic Medical Society. Dr. Thomas was a thirty-second degree Mason and also belonged to the Odd Fellows.

Dr. Thomas is survived by his widow, who was Julia Leona Winsor of Duxbury, whom he married October 17, 1877, and by one son.



BEGIN

WITH

Eastman Dupli-Tized X-Ray Films

It's easy *then* to keep your files
complete from the start.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

WANTED

At the Taunton State Hospital a male assistant physician and a female assistant physician. For further information address

Dr. ARTHUR V. GOSS, Supt.
Taunton State Hospital
Taunton, Mass. 9-tf, B327

FOR SALE

Massachusetts \$5000.00 country practice, with ideal home in best of community. Price \$5000.00, \$2500.00 cash. Address

A240, Care of
Boston Medical and Surgical Journal 4-1f

A VACANCY

exists upon the medical staff of the State Hospital for Mental Diseases at Howard, R. I. For further information address
ARTHUR H. HARRINGTON, M.D., Supt.
19-tf, B287

FOR SALE

In a community of 10,000 population in southern New Hampshire, practice with fixtures and drugs, and a fully equipped 12-bed hospital at the actual valuation price of personal and real estate. An excellent opportunity to do surgery. Address

A247, Care of
Boston Medical and Surgical Journal 8-tf

FOR SALE

A Scanlan-Morris four-piece gas sterilizer in first-class condition. Also a perfect skeleton (male) all set up. These can be seen by appointment. Address

A248, Care of
Boston Medical and Surgical Journal
Tel. Roxbury 353 9-tf

PHYSICIAN'S FRONT OFFICE.

For rent with bedroom (street floor) at 657 Boylston St. Good service. Telephone

BACK BAY 2728
Miss Stacy 12-tf, B330

PHYSICIAN'S OFFICE TO LET

At 262 Commonwealth Ave. Telephone Back Bay 2514, or address

A259, Care of
Boston Medical and Surgical Journal 13-tf

PAIGE COPE FOR SALE

Late 1917 model, perfect mechanical condition, recently painted, always had the best of care and driven by the owner. Ideal doctor's car. Selling on account of illness. Call Cambridge 7905, between 9 and 4 week days. 13-tf, B337

DOCTOR'S OFFICE FOR RENT.

Forty-five Bay State Road. Entire house devoted to doctors. Switchboard—24-hour service. Telephone Back Bay 8845. 13-tf, B336

FOR SALE

Well-established hydro-therapeutic institute in the heart of the city. An unusual opportunity. Owner going to Europe. Telephone Main 1798 13-3, B335

TO LET

At 466 Commonwealth Ave., one half of a three-room suite on ground floor. Excellent environment. Tel. B. B. 9016.

Dr. F. A. Webster 13-2, B333

ASSISTANT PHYSICIAN

Single. Wanted at New Hampshire State Hospital Apply to

C. H. Dolloff, Supt.,
Concord, N. H. 13-2, B224

PHYSICIAN'S OFFICE TO LET

Two rooms on first floor at Hotel Girard, 20 Chalmersgate. West. Call or telephone B. B. 7600 14-tf, B335

WANTED

Practical and undergraduate nurses in an institution near New York City. Good salary with full maintenance. Address

A263, Care of
Boston Medical and Surgical Journal 14-3

WANTED

Position as secretary and literary assistant to physician, by young lady, college graduate, with six years' experience in medical work. Excellent references. Address

A264, Care of
Boston Medical and Surgical Journal 14-2

FOR SALE

Leather set—5 pieces—suitable for a doctor's office. Good condition. \$200. Address

A262, Care of
Boston Medical and Surgical Journal 14-2

WANTED

Flat-top, full-size office desk in good condition. Address

A265, Care of
Boston Medical and Surgical Journal 15-1

TO LET

Physician's office at 112 Marlborough Street, near Clarendon Street. Entire ground floor especially arranged for physician, consisting of large back room, with connecting laboratory, lavatory and toilet; smaller front room with large closet. Hardwood floors, open fireplaces, gas, electricity, hot and cold water. Telephone and door service included. May be seen by appointment. Call

Dr. J. DELLINGER BARNEY
Back Bay 4370 15-3, B339

SHERWOOD LINCOLN, MASS.

A large modern country house, surrounded by fifty acres of orchard, field and woods. Three hundred feet above the sea. Protected by hills. Secluded, yet but one-fourth mile from public library and post office and fifteen miles from Boston.

Selected for its healthy location, its beautiful and restful surroundings as an ideal place for the care and treatment of a few patients suffering from nervous ills. Number of patients restricted to six. No insane received.

A suite of rooms, with private bath, or, if desired, a bungalow or cottage for each patient. Accommodation furnished for patients' automobiles or horses.

Established in Newton in 1902 and moved to Lincoln in 1913.

Consultation and coöperation with patients' physician invited.

Boston Office, 10 Arlington Street.

J. F. EDGERLY, M.D.

Lincoln, Mass., or Boston Office by appointment

A. C. JELLY, M.D.

Boston Office Daily from 3 to 4 o'clock P. M.

PHYSICIANS

Advise the parents of that mentally deficient boy patient of yours to send him to an experienced Maine woman for a mother's care and training. For particulars apply to
BOX 154, FOWNAL, MAINE
5-tf, B260

WANTED

Assistant physicians for hospital for mental diseases. Brandon, Manitoba, Canada. Initial salary \$1,500 per year with maintenance.

Applications, stating age, previous experience, year of graduation, etc., should be addressed—

Director,
Psychopathic Hospital
Winnipeg, Canada



Attleboro Sanitarium Attleboro, Mass.

A place for concentrated rest, convalescence from operations or prolonged illness, treatment of nervous and chronic diseases and nutritional disturbances. Mental and tubercular cases not received.

Regulated exercise, massage, hydrotherapy, electrical treatments. Diet scientifically supervised.

Modern building, airy rooms, 100 acres beautiful park and woodlands, spring water, farm and dairy.

Resident doctors and nurses.

H. G. YAGHAN, M.S.

Medical Superintendent
Tel. Attleboro 869.

BOURNEWOOD HOSPITAL

SOUTH STREET, BROOKLINE, MASS.

Established 1884

For a limited number of cases of Mental and Nervous Disease only

Post Office, Chestnut Hill.

Telephone, "Bellevue" 300.

Nearest station, Bellevue, N.Y., N.H., & H. R.R.

GEORGE H. TORNEY, M.D.
Physician in Charge

HENRY R. STEDMAN, M.D.
Consultant

CHANNING SANITARIUM, Inc.

Wellesley Avenue, Wellesley, Mass.

(Established in Brookline, 1879. Transferred to Wellesley, 1916.)

Seven new buildings on fifty acres of high woodland. Sleeping porch and private bath for each patient. Large and small suite cottages. Separate buildings for men and women. Facilities for occupation and diversion. Complete equipment for Vichy, Nauheim and electric baths and other forms of hydrotherapy. Alpine lamp for heliotherapy.

Especially designed and equipped for the care and treatment of nervous cases.

DONALD GREGG, M.D.

WALTER CHANNING, M.D.

PROTECTIVE ANTISEPSIS FOR MUCOUS MEMBRANES

Rhinol is a 10 per cent. suspension in powder form of Sod. Zinc. and Pot. Diodoparaphenolsulphonate, remarkably potent, but non-irritating bactericide. As a means of disinfecting and allaying inflammation of the upper air passages it is of unique value.

In all acute and chronic conditions of the nose and throat, such as Coryza, Rhinitis, Ozena, Adenoids, enlarged Turbinates, infection of the Sinus, Pharyngitis and Laryngitis, etc., Rhinol will give prompt relief. Irritation, congestion, discharge and the attendant discomfort are immediately removed.

As a prophylactic in epidemic influenza Rhinol is of the greatest value.

In Hay-fever, Rhinol is a specific, and complete relief is obtained within a week.

Briefly, Rhinol enables the general practitioner to treat his nose and throat cases as successfully as the specialist.

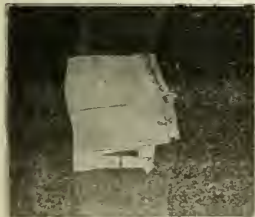
A physician needs only to observe the action of Rhinol in some bothersome case to recognize its superiority to all other local remedies for nose and throat affections.

Valuable literature on request.

RHINOL CO., INC. Price complete with insufflator, \$3.00

1416 Broadway

New York City



THE STORM BINDER AND ABDOMINAL SUPPORTER

(PATENTED)

Adapted to use of Men, Women, Children and Babies

Modifications for Hernia, Relaxed Sacro-Iliac Articulations, Floating Kidney, High and Low Operations, Ptosis, Obesity, Pregnancy, Pertussis, etc.

Send for new folder and testimonials of physicians. General mail orders filled at Philadelphia only—within twenty-four hours.

KATHERINE L. STORM, M.D., 1541 Diamond Street, Philadelphia

Professional Cards

**RING SANATORIUM
AND
HOSPITAL
Inc.**

Arlington Heights, Massachusetts

Eight Miles from Boston
Telephone, Arlington 81

For Chronic, Nervous and Mild Mental Illnesses. Five separate houses permit of segregation and a variety of accommodations.

Boston Office—By appointment

496 Commonwealth Ave.

Telephone, Back Bay 8774

ARTHUR H. RING, M.D.,
Superintendent.

Devereux Mansion

MARBLEHEAD, MASSACHUSETTS

Not a Sanatorium. A pleasant country house where people in need of physical and nervous reconstruction find opportunity for carefully regulated work and rest. No mental cases received. Address

HERBERT J. HALL, M.D.

**Dr. Mellus' Private Hospital
FOR MENTAL DISEASES**

419 Waverley Avenue, Newton, Mass.
Reached by train to Newton, or by electric cars via Commonwealth Avenue to Grant Avenue.

Edward Mellus, M.D.

DR. TAYLOR'S PRIVATE HOSPITAL

For the Treatment of
NERVOUS DISEASES

ALCOHOLISM AND DRUG ADDICTIONS

House newly equipped and furnished, skilled attendants, good food, and comfortable rooms at moderate rates.

Methods of treatment are those proved best after 17 years' successful experience.

FREDERICK L. TAYLOR, M.D.
45 Centre Street, Boston

(Near Elliot Square)

(Roxbury District)

MRS. SPINNEY'S HOUSE

A restful home for invalids and elderly persons, especially for the building up of convalescents amid attractive surroundings. Spacious piazzas, well stocked library, trained attendants.

MARY E. H. SPINNEY

17 Parley Vale, Jamaica Plain, Mass.

Tel. Jamaica 2280

Professional Cards

**Wiswall
Sanatorium
Inc.**

A Sanatorium for the Treatment of Nervous and Mental Diseases

New Buildings, every facility for comfort; in midst of twelve acres of high land, covered with beautiful oak and pine trees, fully equipped for hydrotherapeutic and electrical treatment.

H. O. SPALDING, M.D.,
Superintendent

E. H. WISWALL, M.D.,
Asst. Physician

Wellesley, Mass.

Telephone, Wellesley 261

DR. GIVENS' SANITARIUM

(THE STAMFORD HALL COMPANY)
STAMFORD, CONN.

For the scientific treatment of Nervous and Mental diseases, Drug and Alcoholic addictions, and General Invalidism. Completely equipped for the care and comfort of patients—Hydro-Therapy, Electro-Therapy, Massage, Occupational Therapy and Amusements.

Located in a beautiful natural park of 100 acres, with numerous detached buildings, insuring privacy. Fifty minutes from New York City on the New Haven Railroad.

Address

Frank W. Robertson, M.D., Pres. and Med. Dir.

Phone, 70 Stamford

New York City Office: 412 West End Ave.

Monday, Wednesday, and Friday at noon.

**WOODSIDE COTTAGES
FRAMINGHAM, MASSACHUSETTS**

A small sanitarium, pleasantly located on high ground, especially adapted to the care of chronic invalidism, rest cases, convalescents, and the aged. Separate groups. Committed cases not received.

Tel. Framingham 26.

FRANK W. PATON, M.D.

GLENSIDE

For Nervous and Mental Diseases

6 Parley Vale,

Jamaica Plain, Mass.

MABEL D. ORDWAY, M.D.

Telephone, Jamaica 44

Professional Cards

HERBERT HALL HOSPITAL, Inc.
WORCESTER, MASS. Established in 1873



A Hospital for the Care and Treatment of those afflicted with the various forms of Nervous and Mental Diseases. Accommodations for a few chronic quiet patients at special rates.

WALTER C. HAVILAND, M.D., Superintendent
H. LINCOLN CHASE, M.D., Resident Physician

PINEWOOD REST
ARLINGTON HEIGHTS, MASS.



HOME SANITARIUM

Treatment for Nervous Diseases, Rheumatism, Kidney, Diabetes, Invalids and Chronic Cases.

For information and booklet address

53 Appleton Street
Arlington Heights, Mass.
Tel. 51940 Arlington

P. E. DEEHAN, M.D., Medical Director

"BELLEVUE"

Superior homelike accommodations for five patients. Nervous and Mild Mental Disease, selected cases of Alcoholism, and Elderly Women for whom medical supervision is desired, are received.

MARY W. L. JOHNSON, M.D.
158 WALCOTT ROAD, CHESTNUT HILL, MASS
Telephone, Brookline 6881-W.

**THE MILLET SANITARIUM
FOR TUBERCULOSIS**

EAST BRIDGEWATER, MASSACHUSETTS
C. S. MILLET, M.D., Medical Director

The Boston office of the Millet Sanatorium, East Bridgewater, Massachusetts, has been removed to

45 BAY STATE ROAD

Dr. Millet may be seen at this office on Tuesdays and Fridays between the hours of 11 and 1 o'clock.

TUFTS COLLEGE MEDICAL AND DENTAL SCHOOLS

The Tufts College Medical School offers a four-year course leading to the degree of Doctor of Medicine. The next session begins September 16, 1920. Students of both sexes are admitted upon presentation of an approved high school certificate and, in addition, college credit indicating two years' work in Chemistry, English, Physics, Biology, and French or German.

CHARLES F. PAINTER, M.D., *Dean*.

For further information, apply to FRANK E. HASKINS, M.D., *Secretary*, 416 Huntington Avenue, Boston, Mass.

The Tufts College Dental School admits graduates of accredited high schools on presentation of their diploma and transcript of record covering fifteen units.

Well-equipped laboratories and abundant clinical facilities furnish opportunity for a thoroughly practical course in medicine and dentistry.

WILLIAM RICE, D.M.D., *Dean*.

THE NEW YORK EYE AND EAR INFIRMARY

School of Ophthalmology and Otology

For Graduates of Medicine

Clinics daily by the Surgical Staff of the Infirmary. Special courses in Ophthalmology, Refraction, Operative Surgery of the Eye and Ear, Pathology and External Diseases of the Eye.

The abundant clinical material of this well-known institution affords students an unusual opportunity for obtaining a practical knowledge of these special subjects. Two vacancies in the House staff exists in March, July, and November of each year. For particulars address the Secretary,

DR. GEORGE S. DIXON, NEW YORK EYE AND EAR INFIRMARY.

THE BOWDOIN MEDICAL SCHOOL

ADDISON S. THAYER, *Dean*

10 DEERING ST., PORTLAND, ME.

SYRACUSE UNIVERSITY COLLEGE OF MEDICINE

ENTRANCE REQUIREMENTS: Two years in a registered College or School of Science. Combination courses recognized.

LABORATORY COURSES in well equipped laboratories under full time teachers.

CLINICAL COURSES in the University Hospital, one general, one special, and in the municipal hospitals and in the dispensary adjoining the college, in all of which senior students serve as clinical clerks. Tuition \$200

Address The Secretary of the College of Medicine, 307 Orange St., Syracuse N. Y.

GRAND VIEW SANITARIUM AND HOSPITAL

547 Central Street, Winchendon, Mass.

A Modern Health Resort for Convalescent Cases, Semi-Invalids, and General Medical and Surgical Work. Beautifully located with views of Monadnock in the north and Wachusett in the south. Pine grove. Rates moderate.

Licensed Lying-in Hospital. Confinements a specialty.

Doctors' private patients will receive our special care.

Write for particulars.

Julla A. Nason, R.N., Supt. Howard N. Nason, M.D., Physician

BOSTON NURSES' CLUB, Inc., AND REGISTRY
839 BOYLSTON ST., BOSTON, MASS.

BACK BAY 8787

SWITCHBOARD WITH TWO TRUNK LINES

Graduate Nurse in attendance day and night.

Graduates, Undergraduates, Attendants, Hourly Nursing, Masseurs, Male Nurses.

MRS. GRACE H. TOWER, R.N., REGISTRAR

CLINICAL CHART OF RENAL DISEASES

By H. S. Jellison, M.D., of Boston

Student and practitioner alike will appreciate this concise tabulation. For wall or desk. 15 x 10 inches. 25 cents.

Boston Medical and Surgical Journal
126 Massachusetts Ave., Boston 17, Mass.

A POINT SCALE FOR THE MEASUREMENT OF INTELLIGENCE IN ADOLESCENT AND ADULT INDIVIDUALS.

Robert M. Yerkes, Ph.D., Boston, and
Cecilio S. Rossy, M.A., New York.

A description of the examples and application of the Point Scale used in the Army and for other scientific work along these lines. Reprints may be secured from this office at

35 Cents per Copy

The Boston Medical and Surgical Journal
126 Massachusetts Avenue,
Boston 17, Mass.

MISS GERTRUDE M. NELSON

P. O. Box 16, Copley Square Station
Boston, Mass.

GRADUATE MASSEUSE

Swedish Massage, Medical Gymnastics
Residential Practice Only

Calls given prompt attention

References: Dr. George Steadman, Dr. John H. Blodgett

WET NURSES NEEDED

to fill increased demand at

WET NURSE DIRECTORY

Under the direction and control of the Infants' Hospital. Wet nurses may be obtained by telephoning to

THE DIRECTORY, Brookline 2930

WOODLAWN SANITARIUM

FOR THE CARE OF EPILEPTICS

DR. H. W. HAMMOND, Supt.

WEST NEWTON, MASS.

HARVARD DENTAL SCHOOL BOSTON, MASS.

A department of Harvard University.

Send for Announcement

A four-years' course

DR. EUGENE H. SMITH, *Dean*

New England Laboratories

Clinical  Analytical
Markarian Building 175 State Street
Springfield — Massachusetts

Director, George L. Schaft, M.D.

Telephone River 305 W

WITH a competent, well-trained personnel of laboratory technicians, a director trained in clinical laboratory diagnosis, and with an equipment as complete as it has been possible to obtain, the New England Laboratories are prepared to perform with promptness, accuracy, and dependability any test or reaction that may be requested.

Fee lists and further information will be gladly furnished upon request.

The Diet in Typhoid

AND OTHER FEVERS AND DISEASES
PREVALENT AT THIS SEASON

As the intestinal tract is seriously involved in Typhoid fever, the dietetic problem is one of first consideration. A liquid diet is largely essential in which connection "Horlick's" has important advantages, being very palatable, bland, and affording the greatest nutrition with the least digestive effort.



Samples Prepaid Upon
Request

Avoid imitations by prescribing "Horlick's the Original"

Horlick's Malted Milk Co., Racine, Wis.

Anusol HEMORRHOIDAL Suppositories

If we were to use the superlatives which physicians all over the world have applied to Anusol Suppositories during the last twenty years, we would most certainly be accused of making exaggerated claims.

So we are not going to do it.

But we will gladly send you a sample.

And let you see what some physicians say about them.

MADE IN U.S.A.

**FURNISHED TWELVE IN GREY BOX
WHITE, RED AND BLACK LABEL
AT BEFORE-THE-WAR PRICE.
SCHERING & GLATZ, INC. NEW YORK**

Instruction for Relief Nurses

On and after Oct. 1, 1920, the State Infirmary offers a course of instruction of one year in the practical matters necessary to assistants in caring for the sick. This consists largely of matters relating to household art, regular food preparation and invalid cooking under trained teachers and dietitians, with lectures and demonstrations in the art of nursing given by graduate nurses and physicians, with continuous practical training in the wards as assistants to the regular nurses.

Applicants are preferred between the ages of eighteen and forty-five years, must be in good health and have the equivalent of a standard grammar school education and present testimonials from two responsible citizens.

In order that people who have to continue their earnings may not be debarred, forty dollars per month, with maintenance, will be paid throughout the course, subject to such exceptions as the Superintendent may find to be necessary.

The State Infirmary is located less than five miles from Lowell, Mass., and is within quick communication by steam or electric cars with Boston, Salem, Lawrence and Haverhill, Mass.

Send for application blanks or address letters of inquiry to the State Infirmary, Tewksbury, Mass.

This course should not be confused with the Training School for Nurses of the State Infirmary, which is a three-year course for young women between the ages of eighteen and thirty-five years, with admission requirements demanding at least two years of high school preparation, to which applicants are also invited and a curriculum will be sent upon request.

STATE INFIRMARY, TEWKSBURY, MASS.
John D. Nichols, Supt., and Resident Physician

RADIUM

STANDARD CHEMICAL CO.

OUR Institution is prepared to supply Radium of highest purity in any necessary quantity.

Tube and needle applicators
for deep therapy.

Patented glazed plaques
for dermatological conditions.

Apparatus for radium emanation.

U. S. Bureau of Standards Certificate.

Our Departments of Physics and Medicine are prepared to give instruction in the physics and therapeutic application of Radium.

RADIUM CHEMICAL CO.
PITTSBURGH, PA.

BOSTON
100 N. E. CORNER

CHICAGO
Marshall Field Tower Building

SAN FRANCISCO
1000 Market Street

NEW YORK 1066 Ave. C 251

If It Is Electrotherapeutic Apparatus We Have It and If It Is The Best We Have It

We carry a full line of Electric Light Bath Cabinets and Bakers, High Frequency Machines, Sinusoidal, Galvanic, and Faradic Outfits, etc.

We can give you the LATEST and BEST in X-ray equipments of any size complete with COOLIDGE accessories.

To physicians in New England who are using the VanHouten and Ten Broeck Static Machines we can give full service both for repair work and new equipment, as we have taken over the manufacture of these machines.

If you are in the market for any equipment it will pay you to write us.

Thomas B. Snow

212 East 23rd Street

New York City

ARSPHENAMINE

AND

NEO ARSPHENAMINE

Curiously certain physicians in this country do not appear to realize that there is an *official American designation* for Ehrlich's preparations.

The German patents on these compounds and thousands of other German owned patents were, during the war, seized by the Alien Property Custodian and sold *en bloc* to the "Chemical Foundation," an American corporation organized for the public good and not for private profit.

Acting under the advice of an eminent professor of chemistry in one of our leading universities, who was appointed advisory arspenamine expert to the Government, the terms *arsphenamine* and *neorsphenamine* were adopted as the *official American nomenclature*. These terms should be employed by all loyal American physicians. *The word salvarsan is a proprietary trade name*, as are likewise the designations Kharsivan (English), Diarsenol (Canadian and American), Arsaminol (Japanese and American), Arsenobenzol (French and American), etc., etc. If one wishes to refer particularly to a brand name it is proper to use these terms, but if one desires to refer to the compound itself he should use the official term, Arspenamine. There are indications that England will likewise adopt this name.

DERMATOLOGICAL RESEARCH LABORATORIES

(Incorporated as an Institute for Medical Research)

1720-22 Lombard St., Philadelphia, Pa.

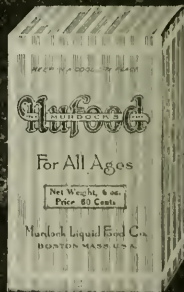


Murfood

a diet of

Milk — Eggs — Malt Extract
samples on request

Try it — Doctor



To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

Samples and literature at your disposal.

RIEDEL & CO., Inc.

Bush Terminal Building 5

BROOKLYN, NEW YORK CITY

"An Assistant In the House"

"For a good many years," says one of the country's most successful practitioners, "I have made a practice of advising my patients to keep a bottle of

Dioxogen

constantly in the house to meet the hundred and one minor injuries or hygienic needs continually arising. As an all 'round antiseptic I know of nothing better or safer than a good peroxide of hydrogen—and in my experience the best and safest peroxide of hydrogen is Dioxogen.

When I tell a patient to use it, I do not have to *wonder* if it will do what I want it to, nor *worry* that it may prove toxic or harmful.

No, Dioxogen does not belong to the "wonder and worry" class of

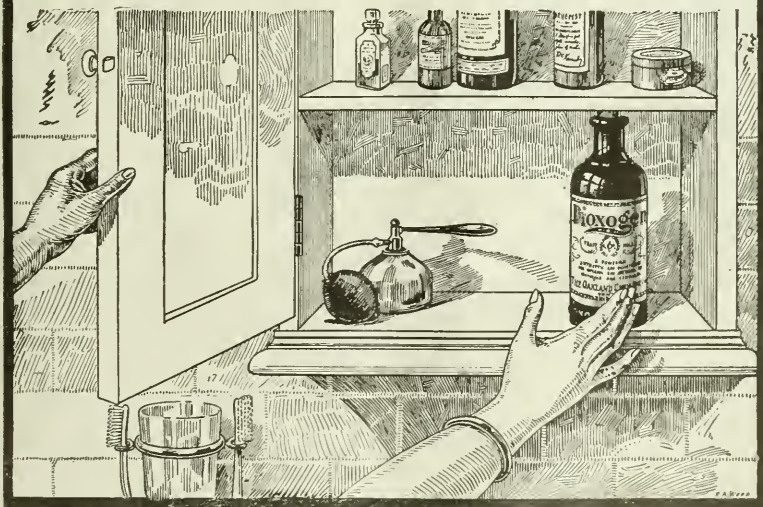
disinfectants. On the contrary, it is a trustworthy, non-toxic antiseptic that medical men can confidently recommend whenever a germicidal or prophylactic agent is required.

This is why I advise my patients to always keep Dioxogen in the medicine cabinet, for in addition to its exceptional value for all routine hygienic purposes, in the case of emergency wounds its prompt and liberal application will assure abundant protection against germ infection until I get there. *It is like always having a dependable assistant in the house."*

THE OAKLAND CHEMICAL CO.

59 Fourth Avenue,

New York City





PITUITARY LIQUID

THE product is of standard strength. The package is dated. The doctor knows. He doesn't trust to luck.

It is Posterior Pituitary Active Principle in isotonic salt solution and is without preservatives.

$\frac{1}{2}$ c. c. ampoules (small dose) are labeled, "Obstetrical and Surgical."

1 c. c. ampoules (full dose) are labeled, "Surgical and Obstetrical."

Either in an emergency.

Literature on Request.

ARMOUR AND COMPANY
CHICAGO



The Pomeroy Supporting Corset

A corrective support for enteroptosis, gastropptosis, movable kidney and lax or weakened muscles after operative treatment. The POMEROY is an adaptation of orthopedic principles to corsetry. It is not an experiment, but the result of over fifty years' experience in the making of surgical appliances, and of nearly twenty in the making of surgical corsets. Our fitters are not merely corsetieres. They are trained in surgical appliance work, take an interest in it, and realize their responsibility to the prescribing physician.

POMEROY COMPANY, 41 West Street, Boston

NEW YORK BROOKLYN NEWARK DETROIT CHICAGO SPRINGFIELD



